



SECTION 1

INDUSTRIAL CONTROL TRANSFORMERS

PT, PH, PTD, PHD, SL and E Series Control Transformers

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CONTROL TRANSFORMER QUICK SELECTION CHARTS

PT Series Control Transformers

Primary Volts	Sec. Volts	Group	Part No.	Page
600, 575, 550	120, 115, 110	GG	PT__MAMJ	39
600, 480, 416, 240	130, 120, 99	JJ	PT__MRMA	41
575, 460, 230	115, 95	BB	PT__MBMH	36
480, 415, 400	24, 120	QQ	PT__MFMD	45
480,380,277,240,208	24	KK	PT__MSG	41
480	240	EE	PT__CM	38
460, 230, 208, 200	25, 115	NN	PT__MHMC	43
460, 230, 208	115	FF	PT__MLI	38
415, 400, 380	110/220	MM	PT__MEMX	42
415, 400, 240	24, 120	PP	PT__MCMD	44
415, 380	110/220	HH	PT__MDMX	40
380, 277, 208	24, 120	OO	PT__MGMD	44
380, 277, 208	120	II	PT__MGJ	40
240/480	120/240	RR	PT__QP	46
240/480	120, 115, 110	AA	PT__MQMH	35
240/480	12/24	LL	PT__QR	42
240/480	24	CC	PT__QG	36
120/240	120/240	SS	PT__PP	46
120/240	24	DD	PT__PG	37

E Series Control Transformers

Pri. Volts	Sec. Volts	Group	Part No.	Page
600	120/240	20	E_9P	103
600	240	14	E_9M	99
600	120	13	E_9J	98
600	24	6	E_9G	93
600	12/24	8	E_9EA	95
480	120	12	E_7J	97
480	24	5	E_7G	93
380	120/240	17	E_5CP	101
347	120/240	16	E_5BP	100
277	120/240	15	E_5AP	99
240/480	120/240	19	E_6P	102
240	120	11	E_5J	97
240	24	4	E_5G	92
208/416	120/240	18	E_5EP	101
208/416	12/24	7	E_5EEA	94
208	120	10	E_3J	96
208	24	3	E_23GE	91
120	120	9	E_2J	95
120	12	1	E_2E	90
120	24	2	E_2G	91

PH Series Control Transformers

Pri. Volts	Sec. Volts	Group	Part No.	Page
600	240	J	PH__AM	56
600	120	A	PH__AJ	50
600	120/240	E	PH__AP	53
600	24	K	PH__AG	57
600	12/24	X	PH__AR	62
480	120	B	PH__CJ	51
480	24	L	PH__CG	57
347	120/240	I	PH__KP	55
347	24	R	PH__KG	61
240/480	120/240	F	PH__QP	53
240	120	C	PH__MJ	51
240	24	M	PH__MG	58
208/416	120/240	H	PH__SP	55
208	120	D	PH__LJ	52
208	24	S	PH__LG	62
120/240	120/240	G	PH__PP	54
120/240	12/24	P	PH__PR	60
120	120	Q	PH__JJ	61
120	24	N	PH__JG	59
120	12	O	PH__JE	59

PTD & PHD Series Transformers

Pri. Volts	Sec. Volts	Group	Part No.	Page
600	120	PHD-A	PHD__AJ	69
600	24	PHD-K	PHD__AG	71
600	12/24	PHD-X	PHD__AR	72
240/480	120,115,110	PTD-AA	PTD__MQMH	66
240/480	120/240	PHD-F	PH__QP	70
240/480	12/24	PTD-LL	PTD__QR	67
120/240	120/240	PTD-SS	PTD__PP	68
120/240	24	PTD-DD	PTD__PG	67
120/240	12/24	PTD-TT	PTD__PR	69
120	24	PHD-N	PHD__JG	71

SECTION 1



WHAT IS A CONTROL TRANSFORMER ?

What is a Control Transformer ?

A control transformer is an isolation transformer designed to provide a high degree of secondary voltage stability (regulation) during a brief period of overload condition (also referred to as “*inrush current*”). Control transformers are also known as *Machine Tool Transformers*, *Industrial Control Transformers* or *Control Power Transformers*.

When you calculate the VA requirement of a Transformer, do you use the Primary or the Secondary Voltage ?

When selecting the VA requirement, you use the Secondary Voltage.

Can you use a Control Transformer connected in reverse ?

Yes, a control transformer can be connected in reverse. However, keep in mind the output voltage will be less than its rating, due to the compensation factor of the windings.

Can a Control Transformer regulate the output voltage ?

A control transformer will not regulate the voltage. Output voltage is a function of the coil's turn ratio only, times the input voltage.

What is the benefit of “Vacuum Impregnation” on a Transformer ?

All Hammond Control Transformers are vacuum impregnated with “VT Polyester Resin” and oven cured which seals the surface and eliminates moisture. Impregnating the entire unit provides a strong mechanical bond and offers protection from environmental conditions.

Explain the “VA” or “Volt Ampere Output” Rating?

The VA or volt ampere output rating designates the output which a transformer can deliver for a specified time at its rated secondary voltage and rated frequency, without exceeding its specified temperature rise.

Insulating Materials, what are they made of and what is their purpose?

Hammond Manufacturing utilizes Mylar, Nomex and other high quality insulating materials. Insulation is used to electrically insulate turn to turn windings, layer to layer windings, primary to secondary windings and ground.

What is the effect of “Overload”?

When a transformer is continually overloaded, excessive heat develops and the insulation system will begin to breakdown. As a result, the life expectancy of the transformer is shortened due to the heat exceeding the rating of the insulation system.



CONTROL TRANSFORMER SELECTION

Selecting a Control Transformer requires that you have first hand knowledge of the application for the transformer, and that you understand some basic terms related to the selection process. By using the following information, you will be sure to select the Hammond Control Transformer which best meets your application.

The Hammond PT Series machine tool control transformers are specifically designed for high inrush applications requiring reliable output voltage stability. Designed to meet industrial applications where electromagnetic devices such as relays, solenoids, etc. are used, the Hammond PT series transformers maximize inrush capability and output voltage regulation when electromagnetic devices are initially energized.

To select the proper transformer, three characteristics of the load circuit must first be determined. They are total steady-state (sealed) VA, total inrush VA, and inrush load power factor.

A. The total steady state “sealed” VA is the amount of VA that the transformer must supply to the load circuit for an extended length of time. Simply add the total steady-state VA of all devices in your control circuit. The operating VA data of these components is available from the manufacturers.

B. The total inrush VA is the amount of VA that the transformer must supply for all components in the control circuit which are energized together. Some consideration to the start-up sequence may be required. Inrush VA should be obtained from the device manufacturer.

C. The inrush load power factor is difficult to determine without detailed vector analysis of all the control circuit components. Such information is not generally available. Therefore,

Hammond is recommending that a value of 40% power factor be utilized. Although some other control transformer manufacturers still recommend a power factor of only 20%, Hammond, through recent tests conducted on many popular brands of control devices has determined that the 40% power factor value is more accurate.

Once the above circuit variables have been determined, transformer selection is a six (6) step process.

SIX EASY STEPS

1. Determine what your Primary (supply) and Secondary (output) voltage requirements are, as well as your required frequency (i.e. 60 Hz)

2. Calculate the Total Sealed VA of your circuit. (See Step A)

3. Now calculate the Inrush VA by adding the inrush VA of all components being energized together. Remember to add the sealed VA of all components that do not have inrush VA, (lamps, timers etc.) as they do however present a load to the transformer during maximum inrush. If the inrush for the components in your circuit are not known, assume a 40% Inrush Power Factor.

4. Calculate the Total Inrush VA using one of the two methods:

A.
$$\text{Total Inrush VA} = \sqrt{(\text{VA sealed})^2 + (\text{VA inrush})^2}$$

OR

B.
$$\text{Total Inrush VA} = \text{VA Sealed} + \text{VA Inrush}$$

Note: method B will result in a slightly larger transformer being selected.

5. If the nominal supply voltage does not fluctuate more than 5%, then reference the 90% secondary voltage column in the Regulation Data Table for the correct VA rating.

If the supply voltage varies upwards of 10%, the 95% secondary voltage column should be used to size the transformer.

Current standards require electromagnetic devices to operate reliably at a minimum of 85% of their rated voltage. However, contact life may be affected with continuous start-ups at that voltage level. Therefore, the minimum 85% secondary voltage column should only be used as a reference.

6. Using the regulation data tables below, select the appropriate VA rated transformer:

A) with a continuous VA rating that is equal to or greater than the value in Step 3.

B) with a maximum inrush VA equal to or greater than the value obtained in Step 5.

To determine the correct Hammond Transformer and its Catalog Number, just refer to the tables in this catalog for the voltage ratings, frequency and corresponding VA required.

“PT” TRANSFORMERS
REGULATION DATA TABLE

Continuous VA Transformer Nameplate Rating	Inrush VA @ 40% Power Factor		
	85% Secondary Voltage	90% Secondary Voltage	95% Secondary Voltage
25	160	130	95
50	270	210	160
75	435	365	255
100	655	520	370
150	1300	1010	700
200	1975	1500	1020
250	2680	2030	1340
350	3665	2820	1895
500	6300	5035	3305
750	10555	7920	5050
1000	15225	11160	6000

It is recommended that a Control Transformer be sized at a 40% Power Factor. Some components in a circuit, such as electromagnetic devices, typically operate at that level due to their inherently lower power factor. Selecting a transformer at 40% Power Factor will more than adequately size the unit for all the various loads in the circuit.

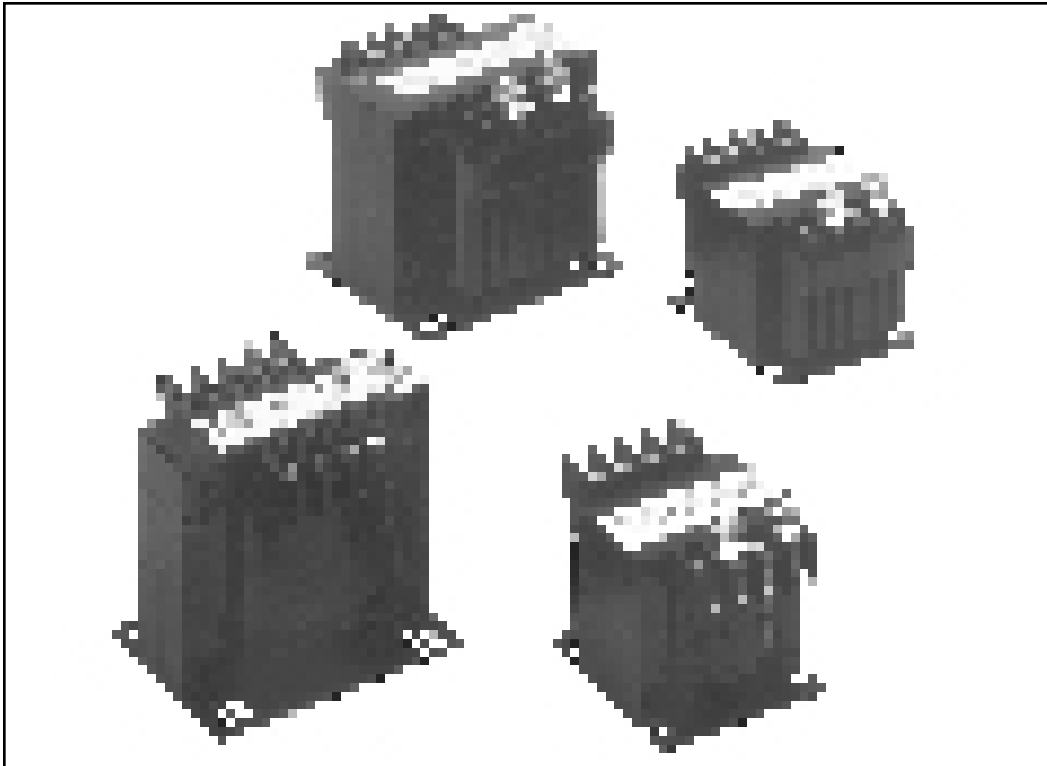


PT Series Control Transformer - Applications



The Hammond "PT" series of machine tool transformers, now 'CE Marked', are specifically designed for high inrush applications requiring reliable output voltage stability. Designed to meet industrial applications where electromagnetic devices such as relays, solenoids, etc. are used, the Hammond "PT" series transformers maximize inrush capability and output voltage regulation when electromagnetic devices are initially energized.

SECTION 1



STANDARDS		
Hammond Industrial and Machine Tool Control and Instrument Transformers meet or exceeds the standards established by UL, CSA, IRC, ANSI, NEMA.		
Standard	File #	VA Size
UL (ANSI/UL 506)	E50394	All PT
CSA (C22-2 No. 66)	LR3902	All PT
IEC 989		All Molded PT's
NEMA (ST-1)		All PT

At HAMMOND, we rate the VA capacity of our transformers at the output where it counts. Other transformer manufacturers rate their capacity on the input side of the transformer, which can result in a 5% to 20% lower actual VA at the output.





Features

CORE & COILS

- High quality, high permeability silicon steel laminations.
- All-welded construction.
- Computer designed copper wound coils with optimum turns ratio.

INSULATION

- Mylar, Nomex and other insulating materials are used for phase to phase and layer to layer insulation.
- The “PT” series transformers have the following insulation systems:
 - Up to 200 VA ; class A, 55°C rise, 105°C class.
 - 250 to 1000 VA ; class B, 80°C rise, 150°C class.
 - 1500 VA and up ; class F, 115°C rise, 180°C class.

VACUUM IMPREGNATION

- All Hammond Control Transformers are Vacuum Impregnated with “VT” (vinyl-toluene) Polyester Resin”.
- Oven cured after vacuum impregnating.

MOLDED CONSTRUCTION

- All PT series transformers, up to 1000 VA, are molded in a UL 94 flame retardant polyester compound.
- These units have a thermal plastic, injection molded cover with distinctive cooling fins.

TERMINAL BLOCKS

- Fabricated from molded “high-impact” resin, finished in black.
- Combination Phillips (#2) and Robertson (# 2) Red terminal screws with #9 head, 8-32 UNF threads.
- Terminals are tinned brass and chrome plated, and all connections are soldered.
- Terminals are torque tested with automatic drivers.

NAMEPLATE

- Black letters on white background including terminal markings, schematic and CE mark..
- Polyester, nonconductive material.

MOUNTING PLATE

- Offers an unique Universal Mounting Plate made of heavy steel, welded to the core.

FINGER SAFE TERMINAL COVERS

- Finger safe terminal covers for both fused and unfused terminals, in a clear, see through finish, are available for all molded PT series units.

STANDARD SECONDARY FUSE CLIPS

- Each “PT” series transformer, that has a single secondary, comes with a factory installed secondary fuse kit (fuses not included).

Benefits

CORE & COILS

- Provides optimum performance and reliability.
- Rugged one-piece assembly with low noise.
- Enhanced voltage regulation with excellent thermal characteristics.

INSULATION

- Provides the best insulated control transformer in the industry.
- Insulation materials are of the highest rating available for the temperature class.
- Assures long life and reliable performance.

VACUUM IMPREGNATION

- Impregnating the entire unit provides a strong mechanical bond and offers protection against environmental conditions.
- Seals the surface and eliminates moisture.

MOLDED CONSTRUCTION

- Completes the protection process by sealing the core and coils against moisture, dirt and other airborne contaminants.
- Strong and durable, yet still dissipates heat quickly and efficiently.

TERMINAL BLOCKS

- Easy access to terminals while separation barriers prevent unintentional contact.
- Versatile screw head with optimum torque and retention ability.
- Assures integrity and strength of connections and terminals
- Withstands any manual installation method.

NAMEPLATE

- Ease of readability results in easier installation.
- Safe for other conductors, even in close proximity.

MOUNTING PLATE

- Provides direct interchangeability with many other popular control transformers.

FINGER SAFE TERMINAL COVERS

- This ensures your protection against electric shock or accidental contact of any kind, and complies with IEC and CE requirements.

STANDARD SECONDARY FUSE CLIPS

- Accommodates 13/32” X 1 1/2” Midget Fuse.



SECTION 1 PT SERIES CONTROL TRANSFORMERS



For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

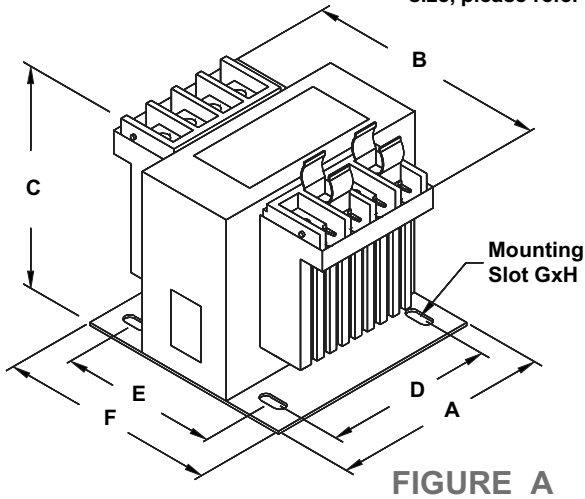


FIGURE A

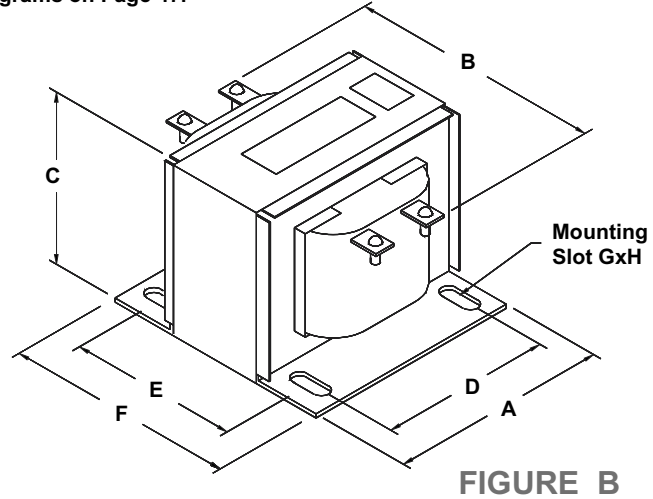


FIGURE B

SECTION 1

Group AA

Primary Voltage	240/480, 230/460, 220/440
Secondary Voltage	120, 115, 110

50/60 Hertz

SCHEMATIC		CONNECTIONS	
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	240	H1, H4	H1-H3, H2-H4
	230	H1, H4	H1-H3, H2-H4
	220	H1, H4	H1-H3, H2-H4
	480	H1, H4	H3-H2
460	H1, H4	H3-H2	
440	H1, H4	H3-H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
120	X2, XF		
115	X2, XF		
110	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers			Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"	"F"		
25	PT25MQMJ	A	0.22	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50MQMJ	A	0.43	3.00	3.75	2.75	2.50	2.50	3.41	.22 X .75	3.60
75	PT75MQMJ	A	0.65	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100MQMJ	A	0.87	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150MQMJ	A	1.30	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200MQMJ	A	1.74	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250MQMJ	A	2.17	4.50	4.50	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
300	PT300MQMJ	A	2.61	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 x .75	10.75
350	PT350MQMJ	A	3.04	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500MQMJ	A	4.35	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750MQMJ	A	6.52	5.63	5.88	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.95
1000	PT1000MQMJ	A	8.70	5.63	6.88	4.50	4.38/5.31	5.50	7.00	.31 X 1.13	28.70
1500	PT1500MQMJ	B	13.04	7.00	5.75	5.50	4.50/6.00	5.13	6.50	.38 x 1.00	33.00
2000	PT2000MQMJ	B	17.39	7.00	7.50	5.50	4.50/6.00	6.13	7.50	.38 x 1.00	41.50
3000	PT3000MQMJ	B	26.09	7.50	8.88	6.38	4.50/6.00	7.00	8.38	.38 x 1.00	71.50
5000	PT5000MQMJ	B	43.48	9.00	10.00	7.63	5.25/7.00	7.25	8.75	.44 x 1.00	106.00

Height dimension (C) does not include fuse clip (applicable up to 1000VA Primary jumpers are included. Secondary fuse clips for 13/32" X 1 1/2" fuse included up to 1000VA. Open style units (1500VA to 5000VA) do not carry the CE mark.

The output amps listed above are based on a 115V secondary. All dimensions in inches unless otherwise specified.



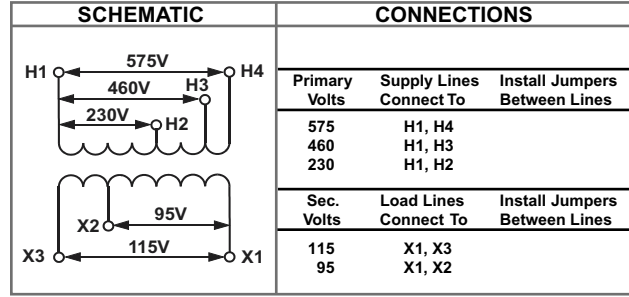
SECTION 1 PT SERIES CONTROL TRANSFORMERS



SECTION 1

Group BB

Primary Voltage	575, 460, 230
Secondary Voltage	115, 95
50/60 Hertz	



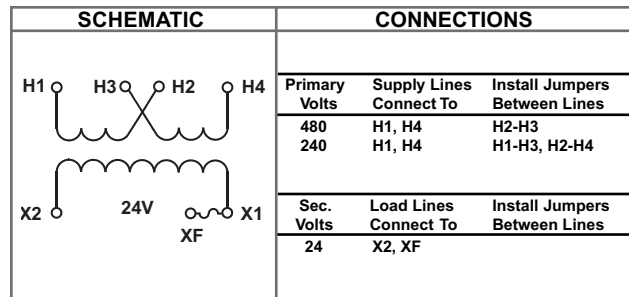
VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MBMH	A	0.22	3.00	3.50	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50MBMH	A	0.43	3.00	3.75	2.75	2.50	2.50	3.41	.22 X .75	3.60
75	PT75MBMH	A	0.65	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100MBMH	A	0.87	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150MBMH	A	1.30	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200MBMH	A	1.74	4.50	4.00	3.85	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250MBMH	A	2.17	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
300	PT300MBMH	A	2.61	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 x .75	10.75
350	PT350MBMH	A	3.04	5.00	5.50	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500MBMH	A	4.35	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750MBMH	A	6.52	5.63	6.38	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.75
1000	PT1000MBMH	A	8.70	6.00	6.88	5.07	4.38/5.31	5.50	7.00	.31 X 1.13	28.95
1500	PT1500MBMH	B	13.05	7.00	6.25	5.50	4.50/6.00	5.13	6.50	.38 x 1.00	33.00
2000	PT2000MBMH	B	17.39	7.00	7.50	5.50	4.50/6.00	6.13	7.50	.38 x 1.00	41.50
3000	PT3000MBMH	B	26.09	7.50	9.25	6.38	4.50/6.00	7.00	8.38	.38 x 1.00	73.50
5000	PT5000MBMH	B	43.48	9.00	10.25	7.63	5.25/7.00	7.25	8.75	.44 x 1.00	111.00

Primary jumpers and Secondary fuse clips are not applicable. Secondary jumpers are included. Open style units (1500VA to 5000VA) do not carry the CE mark.

The output amps listed above are based on a 115V secondary. All dimensions in inches unless otherwise specified.

Group CC

Primary Voltage	240/480
Secondary Voltage	24
50/60 Hertz	

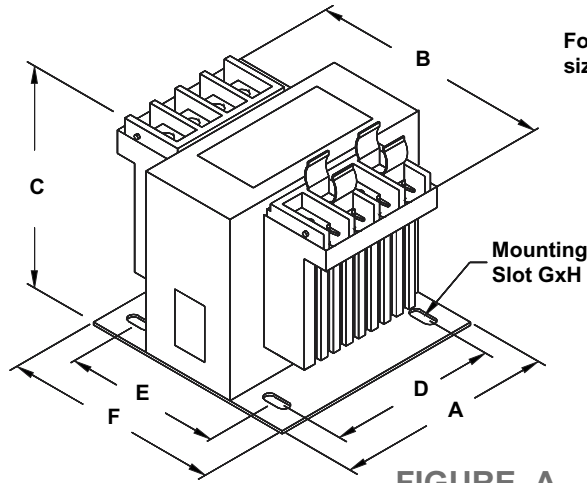


VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25QG	A	1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50QG	A	2.08	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75QG	A	3.13	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100QG	A	4.17	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150QG	A	6.25	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200QG	A	8.33	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250QG	A	10.40	4.50	4.50	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
300	PT300QG	A	12.50	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 x .75	10.75
350	PT350QG	A	14.60	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500QG	A	20.80	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750QG	A	31.30	5.63	5.88	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.95

Height dimension (C) does not include secondary fuse clip. Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

All dimensions in inches unless otherwise specified.

SECTION 1 PT SERIES CONTROL TRANSFORMERS



For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

SECTION 1

Group DD

Primary Voltage	120/240
Secondary Voltage	24
50/60 Hertz	

SCHEMATIC		CONNECTIONS	
		Primary Volts	Supply Lines Connect To
		120	H1, H4
	240	H1, H4	Install Jumpers Between Lines
			H1-H3, H2-H4
			H2-H3
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
24	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25PG	A	1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50PG	A	2.08	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75PG	A	3.13	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100PG	A	4.17	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150PG	A	6.25	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200PG	A	8.33	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250PG	A	10.40	4.50	4.50	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
300	PT300PG	A	12.50	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 x .75	10.75
350	PT350PG	A	14.60	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500PG	A	20.80	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750PG	A	31.30	5.63	5.88	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.95

Height dimension (C) does not include secondary fuse clip.
 Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

All dimensions in inches unless otherwise specified.



SECTION 1 PT SERIES CONTROL TRANSFORMERS

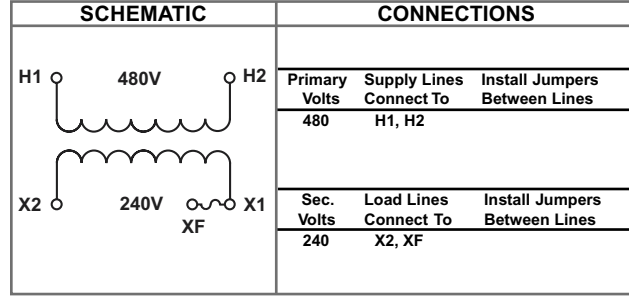


SECTION 1



Group EE

Primary Voltage	480
Secondary Voltage	240
50/60 Hertz	



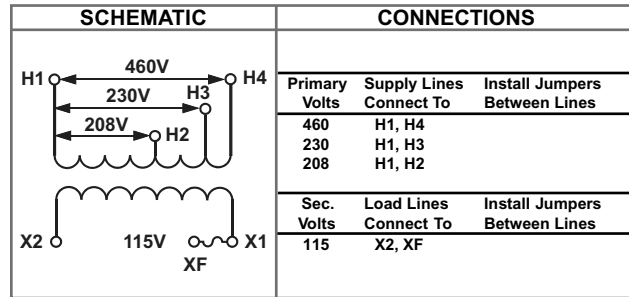
VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25CM	A	0.10	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50CM	A	0.21	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75CM	A	0.31	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100CM	A	0.42	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150CM	A	0.63	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200CM	A	0.83	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250CM	A	1.04	4.50	5.00	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
350	PT350CM	A	1.46	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500CM	A	2.08	5.25	5.00	3.85	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750CM	A	3.13	5.63	5.88	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.75
1000	PT1000CM	A	4.17	5.63	6.38	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	29.95

Height dimension (C) does not include secondary fuse clip. All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable.



Group FF

Primary Voltage	460, 230, 208
Secondary Voltage	115
50/60 Hertz	



VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MLI	A	0.22	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50MLI	A	0.43	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75MLI	A	0.65	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100MLI	A	0.87	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150MLI	A	1.30	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200MLI	A	1.74	4.50	4.00	3.85	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250MLI	A	2.17	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
300	PT300MLI	A	2.61	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 X .75	10.75
350	PT350MLI	A	3.04	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500MLI	A	4.35	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750MLI	A	6.52	5.63	6.38	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.75
1000	PT1000MLI	A	8.70	6.00	6.38	5.07	4.38/5.31	5.00	6.50	.31 X 1.13	28.95

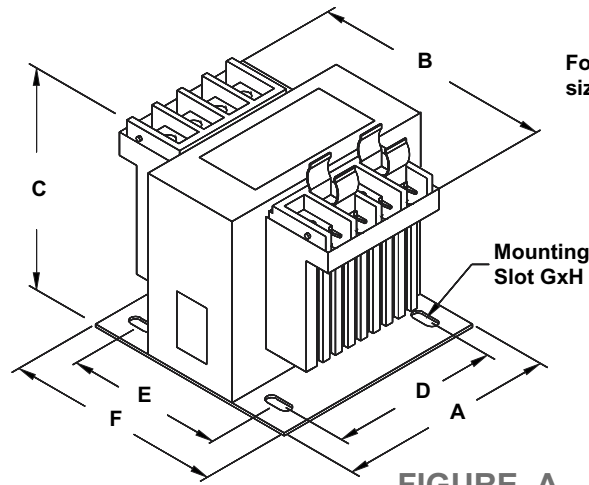
Height dimension (C) does not include secondary fuse clip. All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable.



SECTION 1 PT SERIES CONTROL TRANSFORMERS



SECTION 1



For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

FIGURE A

Group GG

Primary Voltage	600, 575, 550
Secondary Voltage	120, 115, 110
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
	600V	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	575V	600	H1, H2	
	550V	575	H1, H2	
	120V	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	115V	120	X2, XF	
	110V	115	X2, XF	
	XF	110	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers			Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"	"F"		
25	PT25MAMJ	A	0.22	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.25
50	PT50MAMJ	A	0.43	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.50
75	PT75MAMJ	A	0.65	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.25
100	PT100MAMJ	A	0.87	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.00
150	PT150MAMJ	A	1.30	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.00
200	PT200MAMJ	A	1.74	4.50	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	7.50
250	PT250MAMJ	A	2.17	4.50	4.50	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.25
300	PT300MAMJ	A	2.61	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 x .75	10.50
350	PT350MAMJ	A	3.04	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.50
500	PT500MAMJ	A	4.35	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.50
750	PT750MAMJ	A	6.52	5.63	5.88	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.50
1000	PT1000MAMJ	A	8.70	5.63	6.38	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	29.50

Height dimension (C) does not include secondary fuse clip. Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable.

The output amps listed above are based on a 115V secondary. All dimensions in inches unless otherwise specified.



SECTION 1 PT SERIES CONTROL TRANSFORMERS



SECTION 1

Group HH

Primary Voltage	415, 380
Secondary Voltage	110/220
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		415	H1, H3	
	380	H1, H2		
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
110	X1, X4	X1-X3, X2-X4		
220	X1, X4	X2-X3		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	"G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MDMX	A	0.23/0.11	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50MDMX	A	0.45/0.23	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75MDMX	A	0.68/0.34	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100MDMX	A	0.91/0.45	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150MDMX	A	1.36/0.68	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200MDMX	A	1.82/0.91	4.25	4.00	3.25	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250MDMX	A	2.27/1.14	4.50	4.50	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
350	PT350MDMX	A	3.18/1.59	5.00	5.00	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500MDMX	A	4.55/2.27	5.25	5.00	3.85	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750MDMX	A	6.82/3.41	5.63	5.88	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.74
1000	PT1000MDMX	A	9.09/4.55	5.63	6.88	4.50	4.38/5.31	5.50	7.00	.31 X 1.13	28.95

Secondary jumpers are included. Primary jumpers and secondary fuse clips are not applicable. All dimensions in inches unless otherwise specified.

Group II

Primary Voltage	380, 277, 208
Secondary Voltage	120
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		380	H1, H4	
		277	H1, H3	
	208	H1, H2		
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
120	X2, XF			

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	"G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MGJ	A	0.21	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50MGJ	A	0.42	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75MGJ	A	0.63	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100MGJ	A	0.83	3.00	4.00	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150MGJ	A	1.25	4.25	4.50	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.15
200	PT200MGJ	A	1.67	4.50	4.00	3.85	3.13/3.75	2.75	3.63	.22 X .75	7.75
250	PT250MGJ	A	2.08	4.50	4.00	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50
300	PT300MGJ	A	2.50	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 X .75	10.75
350	PT350MGJ	A	2.92	5.00	4.75	3.85	3.75/4.38	3.56	4.56	.22 X .75	11.75
500	PT500MGJ	A	4.17	5.25	5.00	4.50	3.75/4.38	4.00	5.00	.31 X .75	14.75
750	PT750MGJ	A	6.25	5.63	5.00	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	21.75
1000	PT1000MGJ	A	8.33	5.63	6.38	4.50	4.38/5.31	5.00	6.50	.31 X 1.13	28.95

Height dimension (C) does not include secondary fuse clip. All dimensions in inches unless otherwise specified. Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable.



SECTION 1 PT SERIES CONTROL TRANSFORMERS

For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

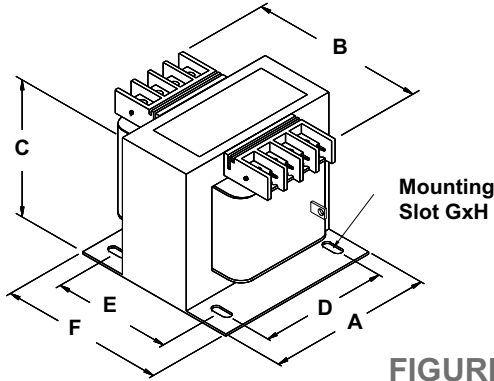


FIGURE C

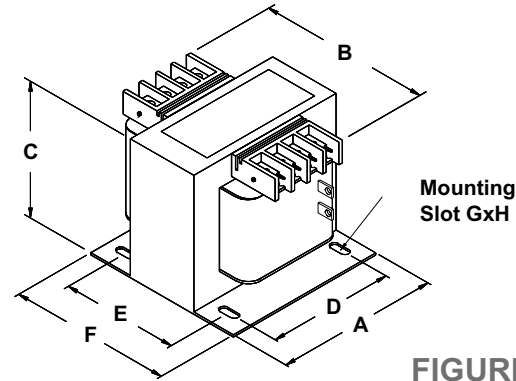


FIGURE D

SECTION 1

Group JJ (Universal, Open Style Transformer)

Primary Voltage	600, 480, 416, 240
Secondary Voltage	130, 120, 99
50/60 Hertz	

SCHEMATIC		CONNECTIONS					
H1	H2	H3	H4	H5	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
0V	240V	416V	480V	600V	600	H1, H5	
					480	H1, H4	
					416	H1, H3	
					240	H1, H2	
X4	X3	X2		X1	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
					130V	X1, X4	
					120V	X1, X3	
					99V	X1, X2	
					0V		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers			Mtg. Slot	Shipping
				"A"	"B"	"C"	"D"	"E"	"F"	"G X H"	Wt/Lbs
50	PT50MRMA	C	0.42	3.00	3.75	2.75	2.50	2.50	3.41	.22 X .44	3.98
75	PT75MRMA	C	0.63	3.00	4.25	2.75	2.50	2.44	3.31	.22 X .50	4.82
100	PT100MRMA	C	0.83	3.00	4.25	2.75	2.50	2.63	3.50	.22 X .50	5.36
150	PT150MRMA	C	1.25	4.25	3.75	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.38
200	PT200MRMA	C	1.67	4.50	4.50	3.85	3.13/3.75	2.75	3.63	.22 X .75	8.20
250	PT250MRMA	C	2.08	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.90
350	PT350MRMA	C	2.92	5.00	5.50	3.85	3.75/4.38	3.56	4.56	.22 X .75	12.33
500	PT500MRMA	C	4.17	5.25	5.75	4.50	3.75/4.38	4.00	5.00	.31 X .75	16.23

Primary and Secondary jumpers, and Secondary fuse clips are not applicable. Group JJ open style units from (50VA to 500VA) do not carry the CE mark.

The output amps listed above are based on a 120V secondary. All dimensions in inches unless otherwise specified.

Group KK (Universal, Open Style Transformer)

Primary Voltage	480, 380, 277, 240, 208
Secondary Voltage	24
50/60 Hertz	

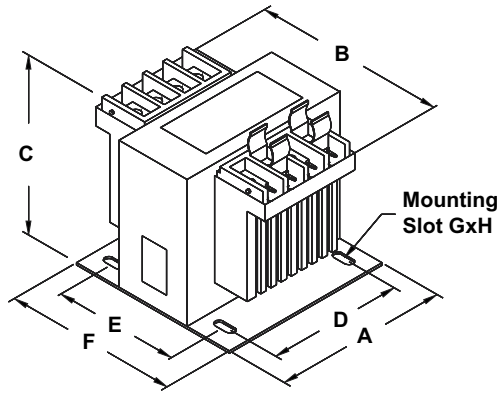
SCHEMATIC		CONNECTIONS						
H1	H2	H3	H4	H5	H6	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
0V	480V	240V	277V	380V	480V	480	H1, H6	
						380	H1, H5	
						277	H1, H4	
						240	H1, H3	
						208	H1, H2	
X2						Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
						24V	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers			Mtg. Slot	Shipping
				"A"	"B"	"C"	"D"	"E"	"F"	"G X H"	Wt/Lbs
50	PT50MSG	D	2.08	3.00	3.75	2.75	2.50	2.50	3.41	.22 X .44	3.98
75	PT75MSG	D	3.13	3.00	4.25	2.75	2.50	2.44	3.31	.22 X .50	4.82
100	PT100MSG	D	4.17	3.00	4.25	2.75	2.50	2.63	3.50	.22 X .50	5.36
150	PT150MSG	D	6.25	4.25	3.75	3.25	3.13/3.75	2.75	3.63	.22 X .75	6.38
200	PT200MSG	D	8.33	4.50	4.50	3.85	3.13/3.75	2.75	3.63	.22 X .75	8.20
250	PT250MSG	D	10.42	4.50	4.75	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.90
350	PT350MSG	D	14.58	5.00	5.50	3.85	3.75/4.38	3.56	4.56	.22 X .75	12.33
500	PT500MSG	D	20.83	5.25	5.75	4.50	3.75/4.38	4.00	5.00	.31 X .75	16.23

Height dimension (C) does not include secondary fuse clip. Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable. Group KK open style units (50VA to 500VA) do not carry the CE mark.

All dimensions in inches unless otherwise specified.

SECTION 1 PT SERIES CONTROL TRANSFORMERS



For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

FIGURE A

SECTION 1

Group LL

Primary Voltage	240/480
Secondary Voltage	12/24
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	480	H1, H4	H2-H3	
	240	H1,H4	H1-H3, H2-H4	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
12	X1, X4	X1-X3, X2-X4		
24	X1, X4	X2-X3		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25QR	A	2.08/1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PT50QR	A	4.17/2.08	3.00	3.75	2.75	2.50	2.25	3.41	.22 X .75	3.60
75	PT75QR	A	6.25/3.13	3.00	4.00	2.75	2.50	2.44	3.31	.22 X .50	4.35
100	PT100QR	A	8.33/4.17	3.00	4.50	2.75	2.50	2.63	3.50	.22 X .50	5.15
150	PT150QR	A	12.5/6.25	4.25	4.00	3.25	3.13/3.75	2.63	3.63	.22 X .75	6.15
200	PT200QR	A	16.7/8.33	4.25	4.00	3.25	3.13/3.75	2.63	3.63	.22 X .75	7.75
250	PT250QR	A	20.8/10.4	4.50	4.50	3.85	3.13/3.75	3.00	4.00	.22 X .75	9.50

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.

Group MM

Primary Voltage	415, 400, 380
Secondary Voltage	110/220
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	415V	H1, H4		
	400V	H1, H3		
	380V	H1, H2		
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
110V	X1, X4	X1-X3, X2-X4		
220V	X1, X4	X2-X3		

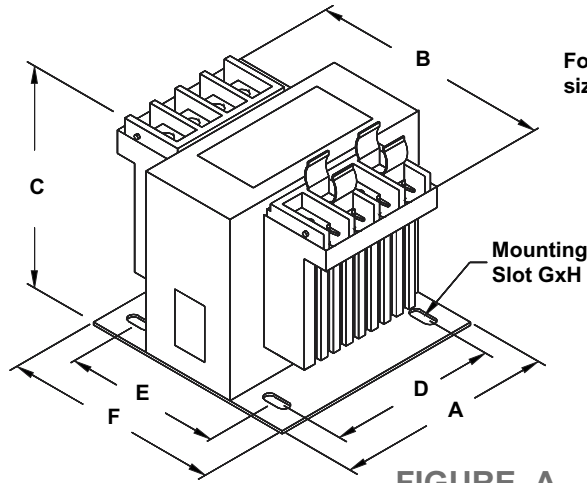
VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MEMX	A	1.04/0.22	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	2.35
50	PT50MEMX	A	2.08/0.43	3.00	3.75	2.75	2.50	2.25	3.41	0.22 x 0.75	3.60
75	PT75MEMX	A	3.13/0.65	3.00	4.00	2.75	2.50	2.44	3.31	0.22 x 0.50	4.35
100	PT100MEMX	A	4.17/0.87	3.00	4.50	2.75	2.50	2.63	3.50	0.22 x 0.50	5.15
150	PT150MEMX	A	6.25/1.30	4.25	4.13	3.25	3.13/3.75	2.75	3.75	0.22 x 0.75	6.15
200	PT200MEMX	A	8.33/1.74	4.25	4.13	3.25	3.13/3.75	2.75	3.75	0.22 x 0.75	7.75
250	PT250MEMX	A	10.42/2.17	4.50	4.88	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.50
350	PT350MEMX	A	14.58/3.04	4.88	5.38	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.75
500	PT500MEMX	A	20.83/4.35	5.25	5.00	3.85	3.75/4.38	4.00	5.00	0.22 x 0.75	14.75
750	PT750MEMX	A	31.25/6.52	6.00	6.00	4.50	4.38/5.31	5.00	6.50	0.31 x 1.13	21.74
1000	PT1000MEMX	A	41.67/8.70	6.00	7.00	4.50	4.38/5.31	5.00	6.50	0.31 x 1.13	28.95

Primary jumpers and Secondary fuse clips are not applicable. Secondary jumpers are included.

All dimensions are inches unless otherwise specified.

*Hammond does not offer European style metric fuse clips.

SECTION 1 PT SERIES CONTROL TRANSFORMERS



For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

FIGURE A

SECTION 1

Group NN

Primary Voltage	460, 230, 208, 200
Secondary Voltage	24, 115
50/60 Hertz	

SCHEMATIC		CONNECTIONS	
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	460V	H1, H4	
	230V	H1, H3	
	208V	H1, H2	
200V	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	115V	X1, X3	
24	X1, X2		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MHMC	A	1.04/0.21	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	3.60
50	PT50MHMC	A	2.08/0.42	3.00	3.50	2.75	2.50	2.25	3.41	0.22 x 0.75	4.35
75	PT75MHMC	A	3.13/0.63	3.00	4.50	2.75	2.50	2.88	3.75	0.22 x 0.50	5.15
100	PT100MHMC	A	4.17/0.83	3.75	4.13	3.25	3.12	2.75	3.50	0.22 x 0.56	5.61
150	PT150MHMC	A	6.25/1.25	4.50	4.38	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	6.15
200	PT200MHMC	A	8.33/1.67	4.50	4.88	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	7.75
250	PT250MHMC	A	10.42/2.08	4.50	5.38	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.40
350	PT350MHMC	A	14.58/2.92	4.88	5.88	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.75
500	PT500MHMC	A	20.83/4.17	5.50	5.00	3.85	3.75/4.38	4.00	5.00	0.22 x 0.75	14.75

Height dimension (C) does not include secondary fuse clip.
 Secondary fuse clips for 13/32" x 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions are inches unless otherwise specified.
 *Hammond does not offer European style metric fuse clips.



SECTION 1 PT SERIES CONTROL TRANSFORMERS



SECTION 1



Group OO

Primary Voltage	380, 277, 208
Secondary Voltage	24, 120
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		380V 277V 208V	H1, H4 H1, H3 H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120V 24V	X1, X3 X1, X2	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MGMD	A	1.04/0.21	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	3.60
50	PT50MGMD	A	2.08/0.42	3.00	4.00	2.75	2.50	2.25	3.41	0.22 x 0.75	4.35
75	PT75MGMD	A	3.13/0.63	3.00	4.50	2.75	2.50	2.88	3.75	0.22 x 0.50	5.15
100	PT100MGMD	A	4.17/0.83	3.75	4.13	3.25	3.12	2.75	3.50	0.22 x 0.56	5.61
150	PT150MGMD	A	6.25/1.25	4.50	4.38	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	6.15
200	PT200MGMD	A	8.33/1.67	4.50	4.88	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	7.75
250	PT250MGMD	A	10.42/2.08	4.50	5.38	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.40
350	PT350MGMD	A	14.58/2.92	4.88	5.88	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.75
500	PT500MGMD	A	20.83/4.17	5.50	5.00	3.85	3.75/4.38	4.00	5.00	0.22 x 0.75	14.75

Height dimension (C) does not include secondary fuse clip.
Secondary fuse clips for 13/32" x 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions are inches unless otherwise specified.
*Hammond does not offer European style metric fuse clips.



Group PP

Primary Voltage	415, 400, 240
Secondary Voltage	24, 120
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		415V 400V 240V	H1, H4 H1, H3 H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120V 24	X1, X3 X1, X2	

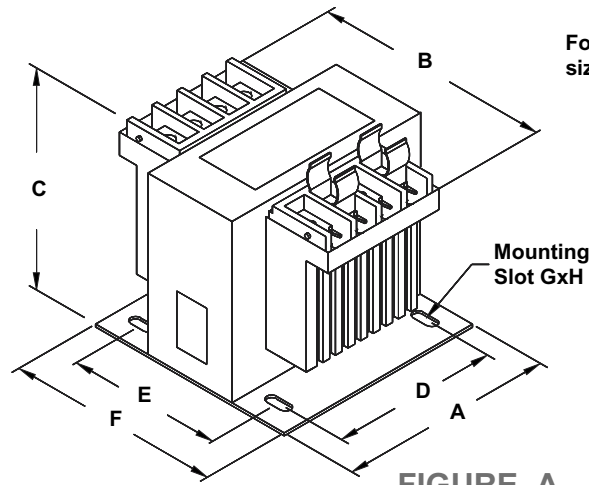
VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MCMD	A	1.04/0.21	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	3.60
50	PT50MCMD	A	2.08/0.42	3.00	4.00	2.75	2.50	2.25	3.41	0.22 x 0.75	4.35
75	PT75MCMD	A	3.13/0.63	3.00	4.50	2.75	2.50	2.88	3.75	0.22 x 0.50	5.15
100	PT100MCMD	A	4.17/0.83	3.75	4.13	3.25	3.12	2.75	3.50	0.22 x 0.56	5.61
150	PT150MCMD	A	6.25/1.25	4.50	4.38	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	6.15
200	PT200MCMD	A	8.33/1.67	4.50	4.88	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	7.75
250	PT250MCMD	A	10.42/2.08	4.50	5.38	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.40
350	PT350MCMD	A	14.58/2.92	4.88	5.88	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.75
500	PT500MCMD	A	20.83/4.17	5.50	5.00	3.85	3.75/4.38	4.00	5.00	0.22 x 0.75	14.75

Height dimension (C) does not include secondary fuse clip.
Secondary fuse clips for 13/32" x 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions are inches unless otherwise specified.
*Hammond does not offer European style metric fuse clips.



SECTION 1 PT SERIES CONTROL TRANSFORMERS



For detailed mounting dimensions by VA size, please refer to diagrams on Page 47.

FIGURE A

SECTION 1



Group QQ

Primary Voltage	480, 415, 400
Secondary Voltage	24, 120
50/60 Hertz	

SCHEMATIC		CONNECTIONS	
		Primary Volts	Supply Lines Connect To
	400V	H1, H4	Install Jumpers Between Lines
	415V	H1, H3	
480V	H1, H2		
		Sec. Volts	Load Lines Connect To
120V	X1, X3	Install Jumpers Between Lines	
24V	X1, X2		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25MFMD	A	1.04/0.21	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	3.60
50	PT50MFMD	A	2.08/0.42	3.00	4.00	2.75	2.50	2.25	3.41	0.22 x 0.75	4.35
75	PT75MFMD	A	3.13/0.63	3.00	4.50	2.75	2.50	2.88	3.75	0.22 x 0.50	5.15
100	PT100MFMD	A	4.17/0.83	3.75	4.13	3.25	3.12	2.75	3.50	0.22 x 0.56	5.61
150	PT150MFMD	A	6.25/1.25	4.50	4.38	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	6.15
200	PT200MFMD	A	8.33/1.67	4.50	4.88	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	7.75
250	PT250MFMD	A	10.42/2.08	4.50	5.38	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.40
350	PT350MFMD	A	14.58/2.92	4.88	5.88	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.75
500	PT500MFMD	A	20.83/4.17	5.50	5.00	3.85	3.75/4.38	4.00	5.00	0.22 x 0.75	14.75

Height dimension (C) does not include secondary fuse clip.
 Secondary fuse clips for 13/32" x 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions are inches unless otherwise specified.
 *Hammond does not offer European style metric fuse clips.



SECTION 1 PT SERIES CONTROL TRANSFORMERS



SECTION 1



Group RR

Primary Voltage	240/480
Secondary Voltage	120/240
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		240 480	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	"G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25QP	A	0.21/0.10	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	2.25
50	PT50QP	A	0.42/0.21	3.00	3.75	2.75	2.50	2.25	3.41	0.22 x 0.75	3.50
75	PT75QP	A	0.63/0.31	3.00	4.00	2.75	2.50	2.44	3.31	0.22 x 0.50	4.25
100	PT100QP	A	0.83/0.42	3.00	4.50	2.75	2.50	2.63	3.50	0.22 X 0.50	5.00
150	PT150QP	A	1.25/0.63	4.25	4.25	3.25	3.12/3.75	2.75	3.75	0.22 x 0.75	6.00
200	PT200QP	A	1.67/0.83	4.50	4.38	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	7.25
250	PT250QP	A	2.08/1.04	4.50	4.88	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.25
300	PT300QP	A	2.50/1.25	4.50	4.88	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	10.50
350	PT350QP	A	2.92/1.46	4.88	5.38	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.50
500	PT500QP	A	4.17/2.08	5.25	5.13	4.50	3.75/4.38	4.00	5.00	0.22 x 0.75	14.50
750	PT750QP	A	6.25/3.13	6.00	5.88	4.50	4.38/5.31	5.00	6.50	0.31 x 1.13	21.50
1000	PT1000QP	A	8.33/4.17	6.00	6.92	4.50	3.75/4.38	5.50	7.00	0.31 x 1.13	29.58

Height dimension (C) does not include secondary fuse clip. All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable.



Group SS

Primary Voltage	120/240
Secondary Voltage	120/240
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120 240	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	"G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PT25PP	A	0.21/0.10	3.00	3.25	2.75	2.50	1.75	2.50	0.22 x 0.44	2.25
50	PT50PP	A	0.42/0.21	3.00	3.75	2.75	2.50	2.25	3.41	0.22 x 0.75	3.50
75	PT75PP	A	0.63/0.31	3.00	4.00	2.75	2.50	2.44	3.31	0.22 x 0.50	4.25
100	PT100PP	A	0.83/0.42	3.00	4.50	2.75	2.50	2.63	3.50	0.22 X 0.50	5.00
150	PT150PP	A	1.25/0.63	4.25	4.25	3.25	3.12/3.75	2.75	3.75	0.22 x 0.75	6.00
200	PT200PP	A	1.67/0.83	4.50	4.38	3.85	3.12/3.75	2.63	3.63	0.22 x 0.75	7.25
250	PT250PP	A	2.08/1.04	4.50	4.88	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	9.25
300	PT300PP	A	2.50/1.25	4.50	4.88	3.85	3.12/3.75	3.00	4.00	0.22 x 0.75	10.50
350	PT350PP	A	2.92/1.46	4.88	5.38	3.85	3.75/4.38	3.56	4.56	0.22 x 0.75	11.50
500	PT500PP	A	4.17/2.08	5.25	5.13	4.50	3.75/4.38	4.00	5.00	0.22 x 0.75	14.50
750	PT750PP	A	6.25/3.13	6.00	5.88	4.50	4.38/5.31	5.00	6.50	0.31 x 1.13	21.50
1000	PT1000PP	A	8.33/4.17	6.00	6.92	4.50	3.75/4.38	5.50	7.00	0.31 x 1.13	29.58

Height dimension (C) does not include secondary fuse clip. All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse are included. Primary jumpers not applicable.

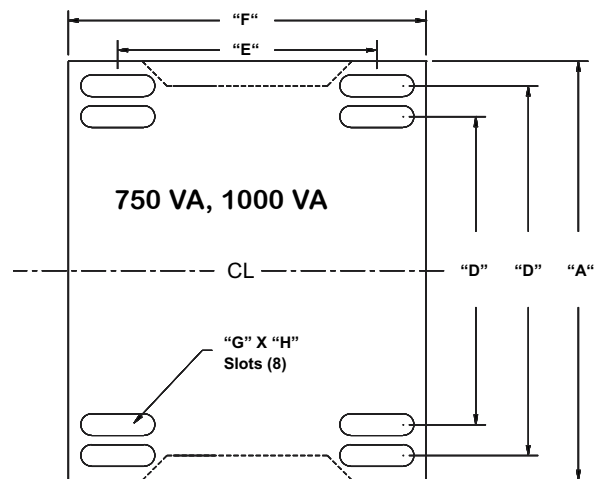
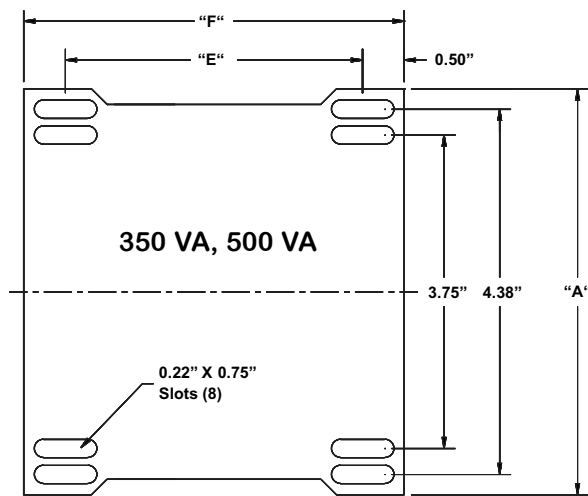
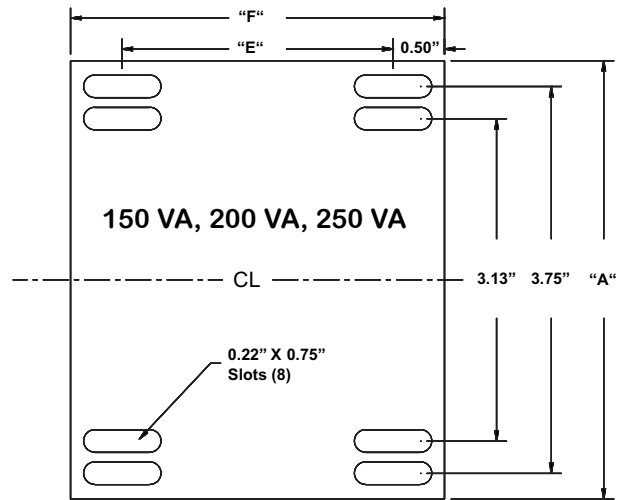
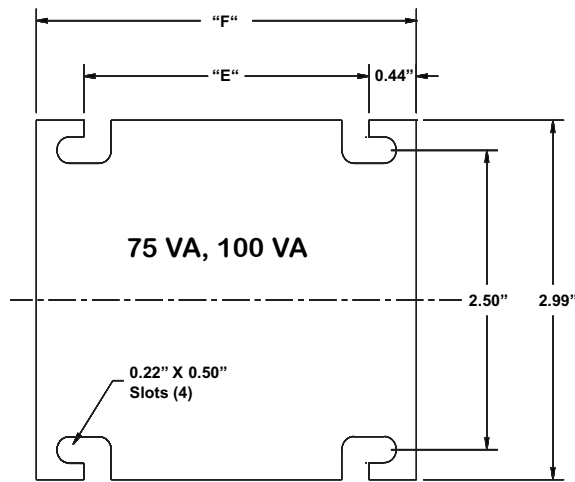
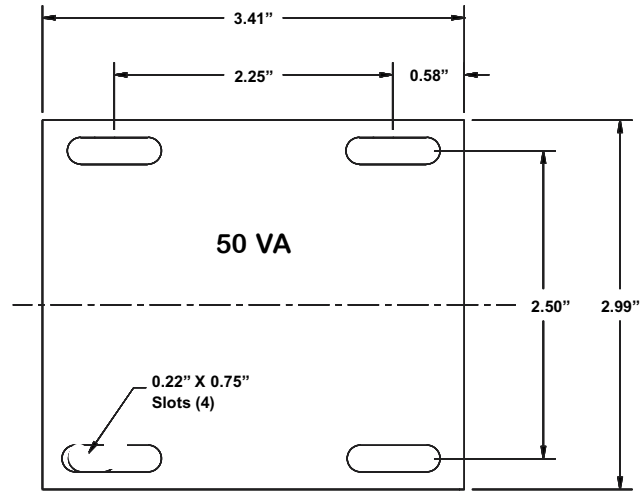
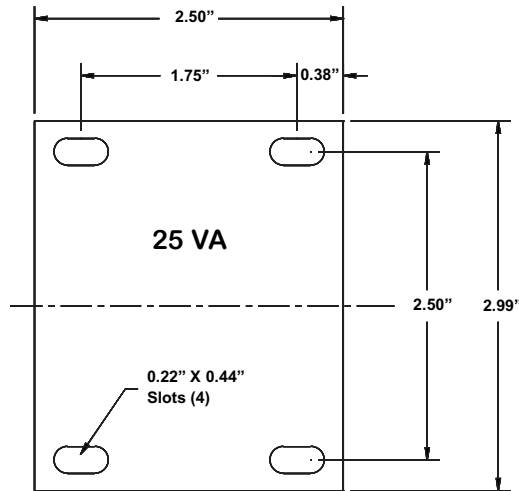


SECTION 1 PT SERIES CONTROL TRANSFORMERS

Detailed Mounting Dimensions



SECTION 1



Mounting plates for units larger than 1000VA are not illustrated. Please consult customer service for any information you require.

All dimensions in inches unless otherwise specified.





PH Series Control Transformer - Applications

The Hammond “PH” series of machine tool transformers are specifically designed for high inrush applications requiring reliable output voltage stability. Designed to meet industrial applications where electromagnetic devices such as relays, solenoids, etc. are used, the Hammond “PH” series transformers maximize inrush capability and output voltage regulation when electromagnetic devices are initially energized.

SECTION 1



STANDARDS		
Hammond Industrial and Machine Tool Control and Instrument Transformers meet or exceeds the standards established by UL, CSA, IRC, ANSI, NEMA.		
Standard	File #	VA Size
UL (ANSI/UL 506)	E50394	All PH
CSA (C22-2 No. 66)	LR3902	All PH
NEMA (ST-1)		All PH

At HAMMOND, we rate the VA capacity of our transformers at the output where it counts. Other transformer manufacturers rate their capacity on the input side of the transformer, which can result in a 5% to 20% lower actual VA at the output.





Features

CORE & COILS

- High quality, high permeability silicon steel laminations.
- All-welded construction.
- Computer designed copper wound coils with optimum turns ratio.

INSULATION

- Mylar, Nomex and other insulating materials are used for phase to phase and layer to layer insulation.
- The “PH” series transformers have the following insulation systems:
 - Up to 200 VA ; class A, 55°C rise, 105°C class.
 - 250 to 1000 VA ; class B, 80°C rise, 150°C class.
 - 1500 VA and up ; class F, 115°C rise, 180°C class.

VACUUM IMPREGNATION

- All Hammond Control Transformers are Vacuum Impregnated with “VT” (vinyl-toluene) Polyester Resin”.
- Oven cured after vacuum impregnating.

MOLDED CONSTRUCTION

- All PH series transformers, up to 1000 VA, are molded in a UL 94 flame retardant polyester compound.
- These units have a thermal plastic, injection molded cover with distinctive cooling fins.

TERMINAL BLOCKS

- Fabricated from molded “high-impact” resin, finished in black.
- Combination Phillips (#2) and Robertson (# 2) Red terminal screws with #9 head, 8-32 UNF threads.
- Terminals are tinned brass and chrome plated, and all connections are soldered.
- Terminals are torque tested with automatic drivers.

NAMEPLATE

- Black letters on white background including terminal markings, schematic and CSA and UL logos.
- Polyester, nonconductive material.

MOUNTING PLATE

- Offers the traditional Hammond Mounting plate made of heavy steel, and welded to the core.

FINGER SAFE TERMINAL COVERS

- Finger safe terminal covers for both fused and unfused terminals, in a clear, see through finish, are available for all molded PH series units.

STANDARD SECONDARY FUSE CLIPS

- Each “PH” series transformer, that has a single secondary, comes with a factory installed secondary fuse kit (fuses not included).

Benefits

CORE & COILS

- Provides optimum performance and reliability.
- Rugged one-piece assembly with low noise.
- Enhanced voltage regulation with excellent thermal characteristics.

INSULATION

- Provides the best insulated control transformer in the industry.
- Insulation materials are of the highest rating available for the temperature class.
- Assures long life and reliable performance.

VACUUM IMPREGNATION

- Impregnating the entire unit provides a strong mechanical bond and offers protection against environmental conditions.
- Seals the surface and eliminates moisture.

MOLDED CONSTRUCTION

- Completes the protection process by sealing the core and coils against moisture, dirt and other airborne contaminants.
- Strong and durable, yet still dissipates heat quickly and efficiently.

TERMINAL BLOCKS

- Easy access to terminals while separation barriers prevent unintentional contact.
- Versatile screw head with optimum torque and retention ability.
- Assures integrity and strength of connections and terminals
- Withstands any manual installation method.

NAMEPLATE

- Ease of readability results in easier installation.
- Safe for other conductors, even in close proximity.

MOUNTING PLATE

- Provides direct interchangeability with many other popular control transformers.

FINGER SAFE TERMINAL COVERS

- This ensures your protection against electric shock or accidental contact of any kind.

STANDARD SECONDARY FUSE CLIPS

- Accommodates 13/32” X 1 1/2” Midget Fuse.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1

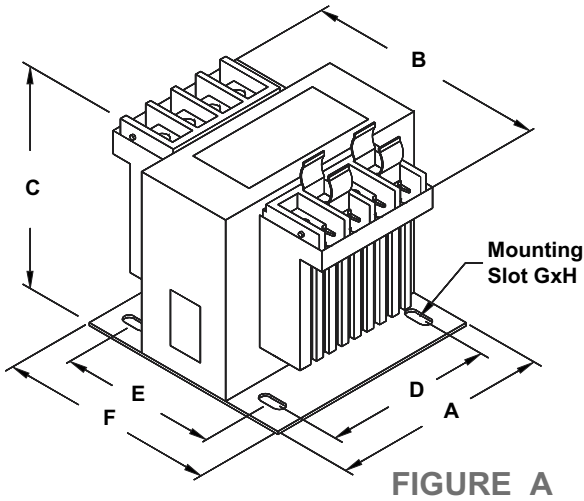


FIGURE A

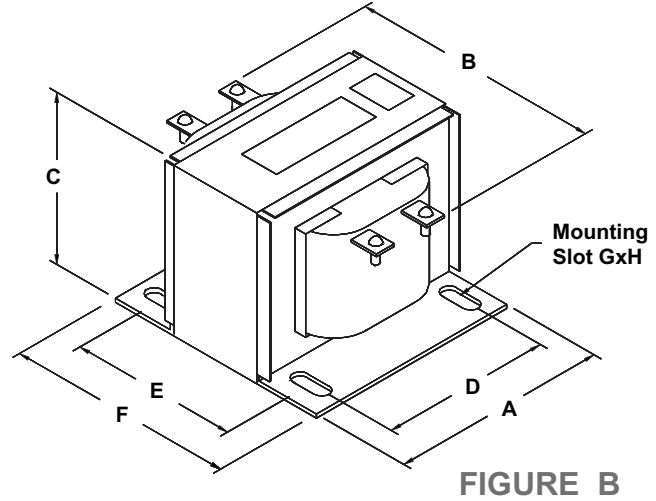
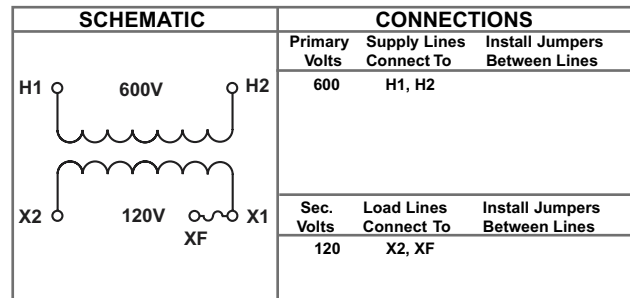


FIGURE B



Group A

Primary Voltage	600
Secondary Voltage	120
60 Hertz	



VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25AJ	A	0.21	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50AJ	A	0.42	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75AJ	A	0.63	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100AJ	A	0.83	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150AJ	A	1.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200AJ	A	1.67	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250AJ	A	2.08	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350AJ	A	2.92	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500AJ	A	4.17	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750AJ	A	6.25	5.63	6.00	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000AJ	A	8.33	5.63	6.50	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500AJ	B	12.50	7.00	5.75	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000AJ	B	16.67	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X 1.0	37.88
3000	PH3000AJ	B	25.00	7.50	8.25	6.38	4.50/6.00	6.38	7.75	.38 X 1.0	58.00

Height dimension (C) does not include secondary fuse clip (applicable up to 1000VA). All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse included up to 1000VA. Primary jumpers not applicable.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



Group B

Primary Voltage	480
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		480	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25CJ	A	0.21	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50CJ	A	0.42	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75CJ	A	0.63	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100CJ	A	0.83	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150CJ	A	1.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200CJ	A	1.67	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250CJ	A	2.08	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350CJ	A	2.92	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500CJ	A	4.17	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750CJ	A	6.25	5.63	6.00	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000CJ	A	8.33	5.63	6.50	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500CJ	B	12.50	7.00	5.75	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000CJ	B	16.67	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X 1.0	37.88

Height dimension (C) does not include secondary fuse clip (applicable up to 1000VA). All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse included up to 1000VA. Primary jumpers not applicable.



Group C

Primary Voltage	240
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		240	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25MJ	A	0.21	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50MJ	A	0.42	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75MJ	A	0.63	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100MJ	A	0.83	3.00	4.10	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150MJ	A	1.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200MJ	A	1.67	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250MJ	A	2.08	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350MJ	A	2.92	4.50	5.00	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500MJ	A	4.17	5.63	6.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750MJ	A	6.25	5.63	6.50	4.50	5.00	4.25	5.25	.31 X .62	17.80

Height dimension (C) does not include secondary fuse clip. All dimensions in inches unless otherwise specified.
 Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

SECTION 1



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1

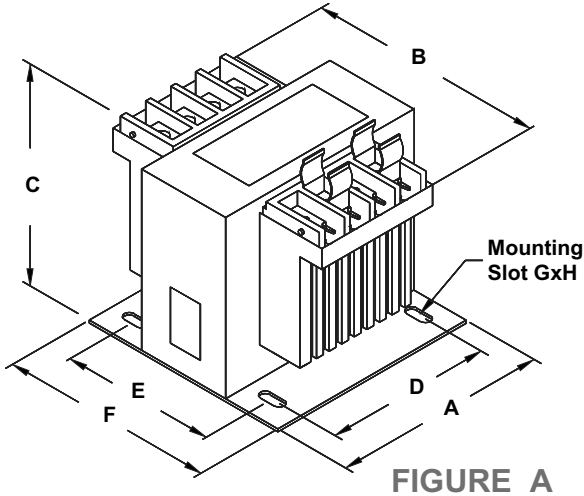


FIGURE A

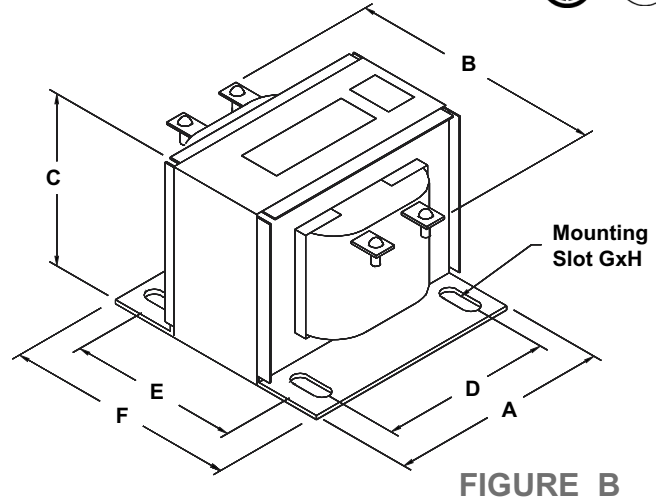


FIGURE B



Group D

Primary Voltage	208
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	208	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	120	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	"G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25LJ	A	0.21	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50LJ	A	0.42	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75LJ	A	0.63	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100LJ	A	0.83	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150LJ	A	1.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200LJ	A	1.67	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250LJ	A	2.08	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350LJ	A	2.92	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500LJ	A	4.17	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10

Height dimension (C) does not include secondary fuse clip.
 Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



Group E

Primary Voltage	600
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25AP	A	.21/.10	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50AP	A	.42/.21	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75AP	A	.63/.31	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100AP	A	.83/.42	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150AP	A	1.25/.63	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200AP	A	1.67/.83	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250AP	A	2.08/1.04	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350AP	A	2.92/1.46	4.50	5.00	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500AP	A	4.17/2.08	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750AP	A	6.25/3.13	5.63	5.88	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000AP	A	8.33/4.17	5.63	6.38	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500AP	B	12.5/6.25	7.00	5.88	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000AP	B	16.7/8.33	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X 1.0	37.88
3000	PH3000AP	B	25.0/12.5	7.50	8.25	5.50	4.50/6.00	6.38	7.75	.38 X 1.0	58.00
5000	PH5000AP	B	41.7/20.8	9.00	9.25	7.50	5.25/7.00	6.50	8.00	.44 X 1.0	103.00
7500	PH7500AP	B	62.5/31.3	9.00	12.00	7.50	5.25/7.00	8.38	9.88	.44 X 1.0	135.00

Primary jumpers and Secondary fuse clips are not applicable. Secondary jumpers are included. All dimensions in inches unless otherwise specified.



Group F

Primary Voltage	240/480
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		240 480	H1, H4 H1, H4	H2-H3 H1-H3, H2-H4
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25QP	A	.21/.10	3.00	3.00	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50QP	A	.42/.21	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75QP	A	.63/.31	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100QP	A	.83/.42	3.00	4.13	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150QP	A	1.25/.63	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200QP	A	1.67/.83	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250QP	A	2.08/1.04	4.50	4.38	3.85	3.75	3.13	4.00	.22 X .56	6.50
350	PH350QP	A	2.92/1.46	4.50	5.00	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500QP	A	4.17/2.08	6.00	4.00	5.10	5.00	3.38	4.38	.31 X .62	13.10
750	PH750QP	A	6.25/3.13	6.00	5.00	5.10	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000QP	A	8.33/4.17	6.00	5.63	5.10	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500QP	B	12.5/6.25	7.50	6.75	6.25	6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000QP	B	16.7/8.33	7.50	7.25	6.25	6.00	5.13	6.50	.38 X 1.0	37.88
3000	PH3000QP	B	25.0/12.5	7.50	8.75	6.25	6.00	5.13	6.50	.38 X 1.0	58.00
5000	PH5000QP	B	41.7/20.8	9.00	10.25	7.50	7.00	6.50	8.00	.44 X 1.0	103.00
7500	PH7500QP	B	62.5/31.3	9.00	12.00	7.50	7.00	8.38	9.88	.44 X 1.0	135.00

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable. All dimensions in inches unless otherwise specified.

SECTION 1



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1

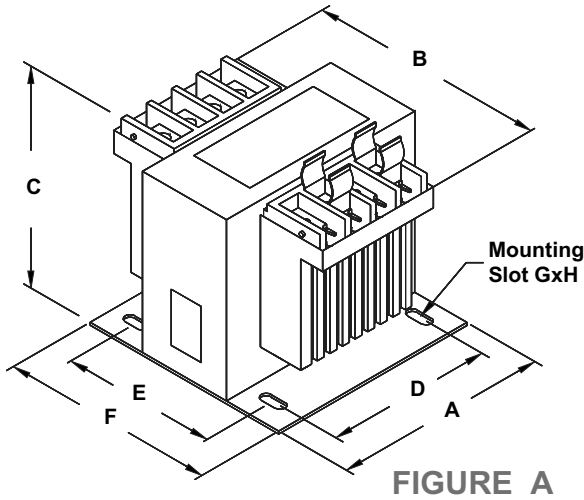


FIGURE A

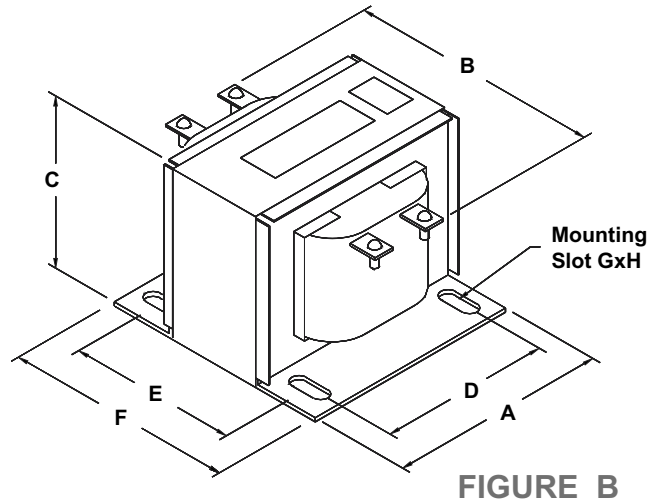


FIGURE B



Group G

Primary Voltage	120/240
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	120 240	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3	
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25PP	A	.21/.10	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50PP	A	.42/.21	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75PP	A	.63/.31	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100PP	A	.83/.42	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150PP	A	1.25/.63	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200PP	A	1.67/.83	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250PP	A	2.08/1.04	4.50	4.25	3.85	3.75	3.13	4.00	.22 X .56	6.50
350	PH350PP	A	2.92/1.46	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500PP	A	4.17/2.08	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750PP	A	6.25/3.13	5.63	6.00	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000PP	A	8.33/4.17	5.63	6.50	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500PP	B	12.5/6.25	7.00	5.75	5.50	4.50/6.00	4.38	5.75	.38 X .63	26.00
2000	PH2000PP	B	16.7/8.33	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X .63	37.88

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



Group H

Primary Voltage	208/416
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		208 416	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25SP	A	.21/.10	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50SP	A	.42/.21	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75SP	A	.63/.31	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100SP	A	.83/.42	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150SP	A	1.25/.63	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200SP	A	1.67/.83	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250SP	A	2.08/1.04	4.50	4.25	3.85	3.75	3.13	4.00	.22 X .56	6.50
350	PH350SP	A	2.92/1.46	4.50	5.00	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500SP	A	4.17/2.08	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750SP	A	6.25/3.13	5.63	5.88	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000SP	A	8.33/4.17	5.63	6.38	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500SP	B	12.5/6.25	7.00	5.88	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000SP	B	16.7/8.33	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X 1.0	37.88
3000	PH3000SP	B	25.0/12.5	7.50	8.25	5.50	4.50/6.00	6.38	7.75	.38 X 1.0	58.00
5000	PH5000SP	B	41.7/20.8	9.00	9.25	7.50	5.25/7.00	6.50	8.00	.44 X 1.0	103.00

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.



Group I

Primary Voltage	347
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		347	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25KP	A	.21/.10	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50KP	A	.42/.21	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75KP	A	.63/.31	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100KP	A	.83/.42	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150KP	A	1.25/.63	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200KP	A	1.67/.83	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250KP	A	2.08/1.04	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350KP	A	2.92/1.46	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500KP	A	4.17/2.08	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750KP	A	6.25/3.13	5.63	6.00	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000KP	A	8.33/4.17	5.63	6.50	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500KP	B	12.5/6.25	7.00	5.75	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000KP	B	16.7/8.33	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X 1.0	37.88
3000	PH3000KP	B	25.0/12.5	7.50	8.25	5.50	4.50/6.00	6.38	7.75	.38 X 1.0	58.00

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.

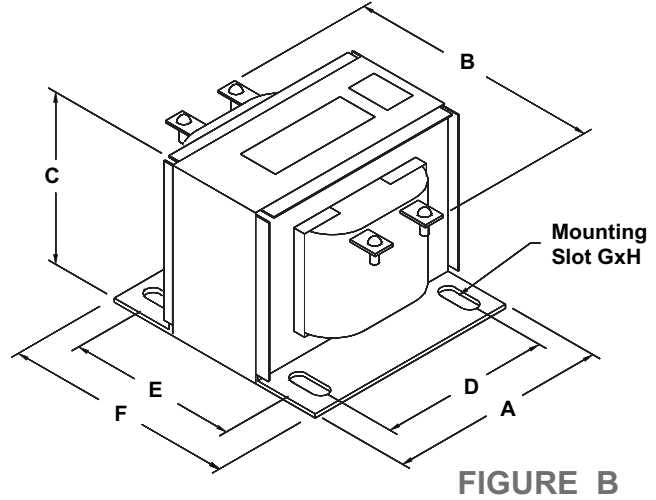
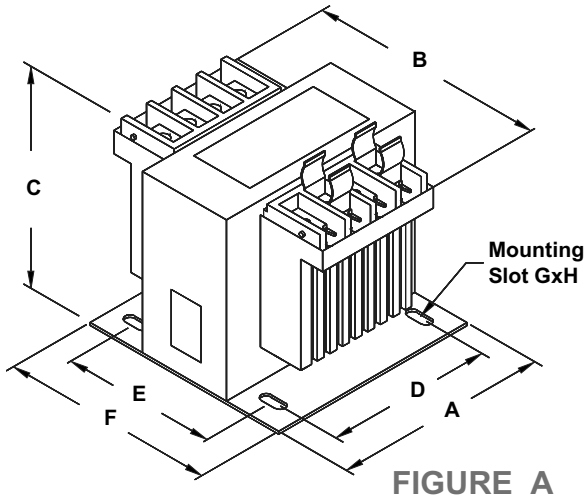
SECTION 1



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1



Group J

Primary Voltage	600
Secondary Voltage	240
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	600	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	240	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25AM	A	0.10	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50AM	A	0.21	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75AM	A	0.31	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100AM	A	0.42	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150AM	A	0.63	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200AM	A	0.83	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250AM	A	1.04	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50
350	PH350AM	A	1.46	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500AM	A	2.08	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750AM	A	3.13	5.63	6.00	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000AM	A	4.17	5.63	6.50	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500AM	B	6.25	7.00	5.75	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00

Height dimension (C) does not include secondary fuse clip (applicable up to 1000VA).

All dimensions in inches unless otherwise specified.

Secondary fuse clips for 13/32" X 1 1/2" fuse included up to 1000VA. Primary jumpers not applicable.





Group K

Primary Voltage	600
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	600	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	24	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25AG	A	1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50AG	A	2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75AG	A	3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100AG	A	4.17	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150AG	A	6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200AG	A	8.33	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250AG	A	10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Height dimension (C) does not include secondary fuse clip.

All dimensions in inches unless otherwise specified.

Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.



Group L

Primary Voltage	480
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	480	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	24	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25CG	A	1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50CG	A	2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75CG	A	3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100CG	A	4.17	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150CG	A	6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200CG	A	8.33	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250CG	A	10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Height dimension (C) does not include secondary fuse clip.

All dimensions in inches unless otherwise specified.

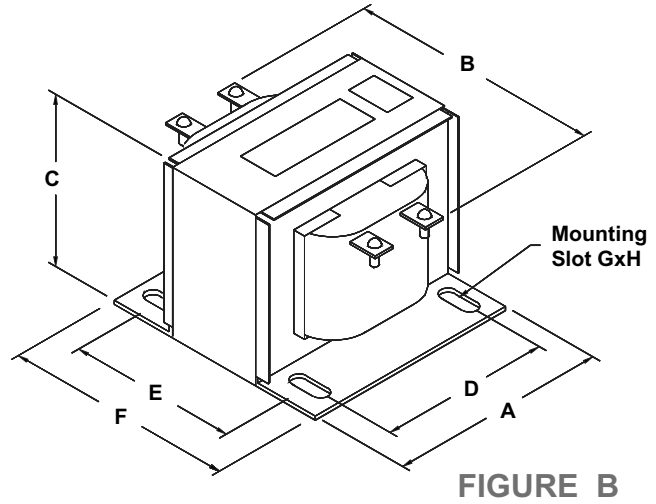
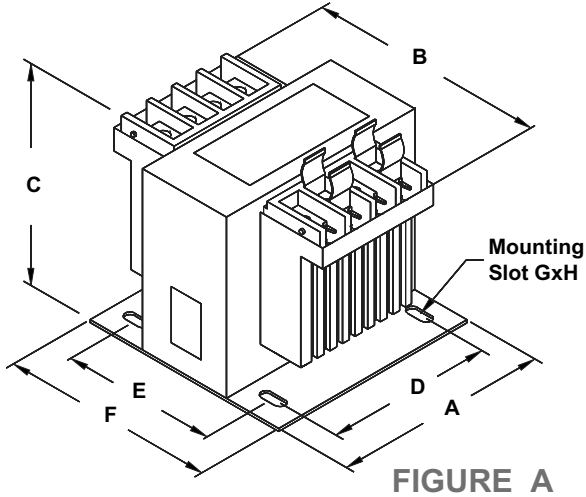
Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1



Group M

Primary Voltage	240
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	240	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	24	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25MG	A	1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50MG	A	2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75MG	A	3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100MG	A	4.17	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150MG	A	6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200MG	A	8.33	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250MG	A	10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Height dimension (C) does not include secondary fuse clip.
 Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



Group N

Primary Voltage	120
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		24	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25JG	A	1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50JG	A	2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75JG	A	3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100JG	A	4.17	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150JG	A	6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200JG	A	8.33	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250JG	A	10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Height dimension (C) does not include secondary fuse clip.
Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.



Group O

Primary Voltage	120
Secondary Voltage	12
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		12	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25JE	A	2.08	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50JE	A	4.17	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75JE	A	6.25	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100JE	A	8.33	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150JE	A	12.5	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200JE	A	16.67	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250JE	A	20.83	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Height dimension (C) does not include secondary fuse clip.
Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.

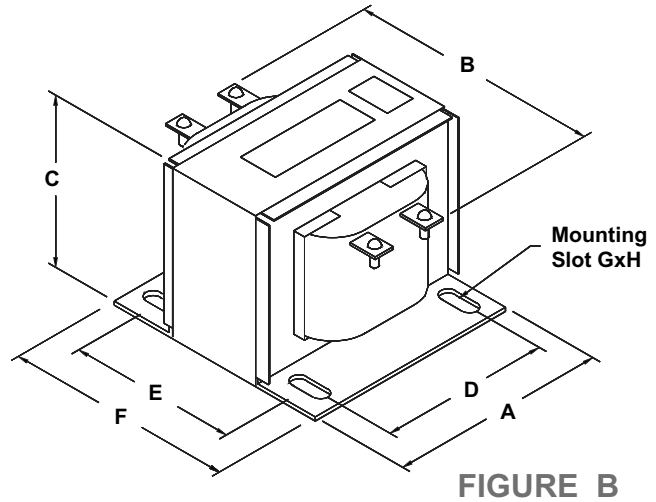
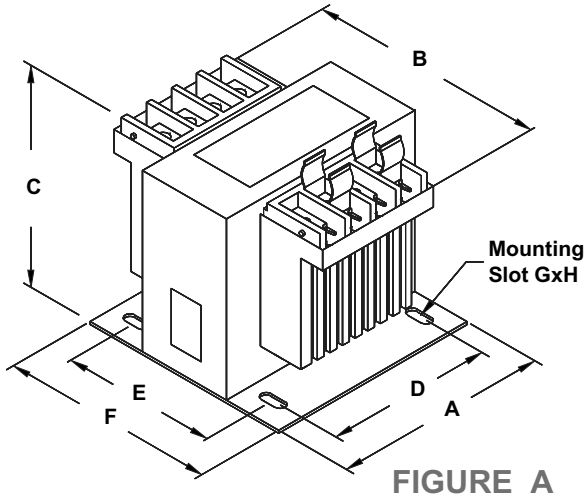
SECTION 1



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1



Group P

Primary Voltage	120/240
Secondary Voltage	12/24
60 Hertz	

SCHEMATIC	CONNECTIONS		
	Primary Volts Connect To	Supply Lines Connect To	Install Jumpers Between Lines
	120	H1, H4	H1-H3, H2-H4
	240	H1, H4	H1-H3
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	12	X1, X4	X1-X3, X2-X4
	24	X1, X4	X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25PR	A	2.08/1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50PR	A	4.17/2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75PR	A	6.25/3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100PR	A	8.33/4.17	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150PR	A	12.5/6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200PR	A	16.7/8.33	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250PR	A	20.8/10.4	4.50	4.25	3.85	3.75	3.13	4.00	.22 X .56	6.50
350	PH350PR	A	29.2/14.6	4.50	5.13	3.85	3.75	3.75	4.63	.22 X .56	9.43
500	PH500PR	A	41.7/20.8	5.63	5.00	4.50	5.00	3.38	4.38	.31 X .62	13.10
750	PH750PR	A	62.5/31.3	5.63	6.00	4.50	5.00	4.25	5.25	.31 X .62	17.80
1000	PH1000PR	A	83.3/41.7	5.63	6.50	4.50	5.00	4.63	5.63	.31 X .62	23.47
1500	PH1500PR	B	125/62.5	7.00	5.75	5.50	4.50/6.00	4.38	5.75	.38 X 1.0	26.00
2000	PH2000PR	B	167/83.3	7.00	6.63	5.50	4.50/6.00	5.13	6.50	.38 X 1.0	37.88
3000	PH3000PR	B	250/125	7.50	8.25	5.50	4.50/6.00	6.38	7.75	.38 X 1.0	58.00

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.



SECTION 1 PH SERIES CONTROL TRANSFORMERS



Group Q

Primary Voltage	120
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25JJ	A	0.21	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50JJ	A	0.42	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75JJ	A	0.63	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100JJ	A	0.83	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150JJ	A	1.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
250	PH250JJ	A	2.08	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Height dimension (C) does not include secondary fuse clip.
Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.



Group R

Primary Voltage	347
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		347	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		24	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25KG	A	1.04	3.00	3.00	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50KG	A	2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75KG	A	3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100KG	A	4.17	3.00	3.25	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150KG	A	6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200KG	A	8.33	3.75	4.00	3.25	3.13	3.50	4.25	.22 X .56	6.00
250	PH250KG	A	10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	7.00

Height dimension (C) does not include secondary fuse clip.
Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.

SECTION 1



SECTION 1 PH SERIES CONTROL TRANSFORMERS



SECTION 1

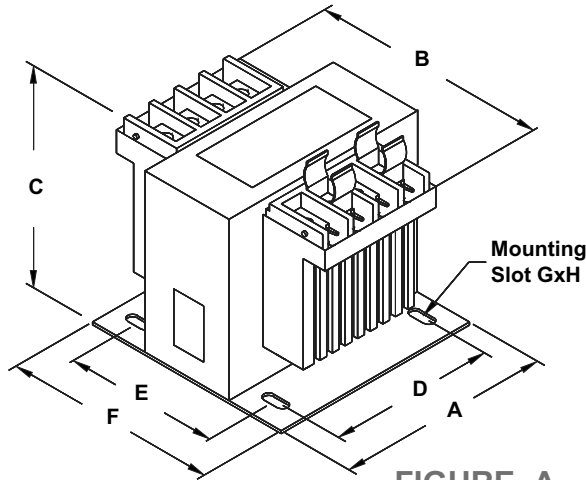


FIGURE A

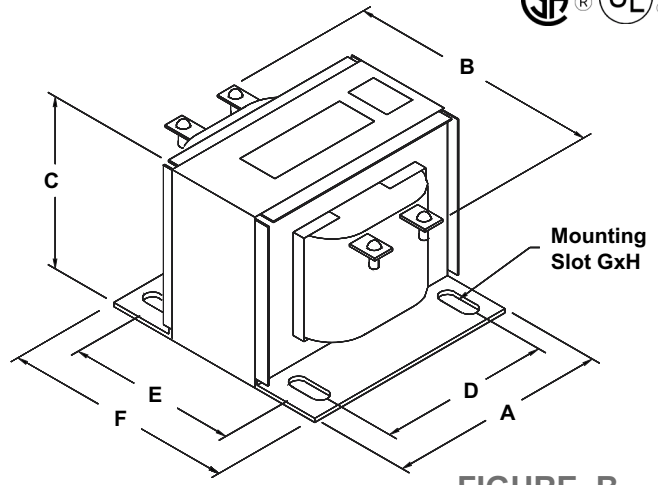


FIGURE B

Group S

Primary Voltage	208
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	208	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	24	X2, XF		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25LG	A	1.04	3.00	3.00	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50LG	A	2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75LG	A	3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100LG	A	4.17	3.00	3.25	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150LG	A	6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200LG	A	8.33	3.75	4.00	3.25	3.13	3.50	4.25	.22 X .56	6.00
250	PH250LG	A	10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	7.00

Height dimension (C) does not include secondary fuse clip.

Secondary fuse clips for 13/32" X 1 1/2" fuse included. Primary jumpers not applicable.

All dimensions in inches unless otherwise specified.

Group X

Primary Voltage	600
Secondary Voltage	12/24
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	600	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	12	X1, X4	X1-X3, X2-X4	
	24	X1, X4	X2-X3	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		"F"	Mtg. Slot "G X H"	Shipping Wt/Lbs
				"A"	"B"	"C"	"D"	"E"			
25	PH25AR	A	2.08/1.04	3.00	3.25	2.75	2.50	1.75	2.50	.22 X .44	2.35
50	PH50AR	A	4.17/2.08	3.00	3.25	2.75	2.50	2.50	3.25	.22 X .44	2.50
75	PH75AR	A	6.25/3.13	3.00	3.75	2.75	2.50	2.50	3.25	.22 X .44	3.60
100	PH100AR	A	8.33/4.17	3.00	4.00	2.75	2.50	3.00	3.75	.22 X .44	4.35
150	PH150AR	A	12.5/6.25	3.75	4.25	3.25	3.13	2.75	3.50	.22 X .56	6.00
200	PH200AR	A	16.67/8.33	3.75	4.25	3.25	3.13	3.50	4.25	.22 X .56	6.15
250	PH250AR	A	20.83/10.42	4.25	4.25	3.25	3.75	3.13	4.00	.22 X .56	6.50

Primary jumpers and Secondary fuse clips are not applicable. Secondary jumpers are included.

All dimensions in inches unless otherwise specified.





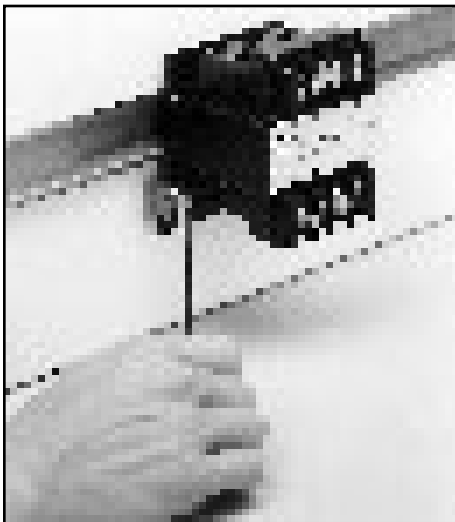


DIN Rail Mount PT & PH Series Control Transformers

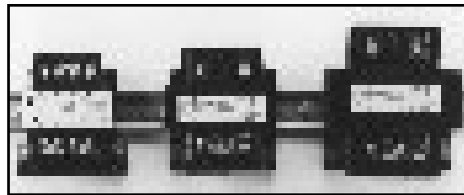
The Hammond DIN rail mount “PT” and “PH” series of machine tool transformers are designed to meet the requirements for ‘panel mounted’ industrial control applications. This line offers the same features as our standard PT and PH units except the base has been configured for mounting on DIN rail.

Hammond is pleased to introduce the NEW ‘PTD’ and ‘PHD’ series . . . the first DIN rail mountable industrial control transformers offered in the market. The benefits of the DIN rail mounting includes:

- No incorrect back-plate holes
- Flexibility in locating the transformer virtually anywhere in the panel.
- No drilling necessary.
- No metal shavings to dispose.
- Substitute or replace any transformer quickly and efficiently.
- All products installed in the control panel can now be bench work assembled.
- All the same great features of the PT and PH series with the ease of DIN rail mounting.
- Optional ‘antivibration’ bracket for high vibration applications and long range shipments.

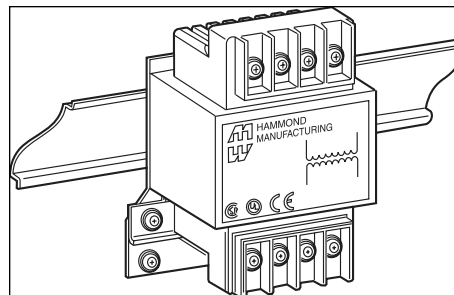
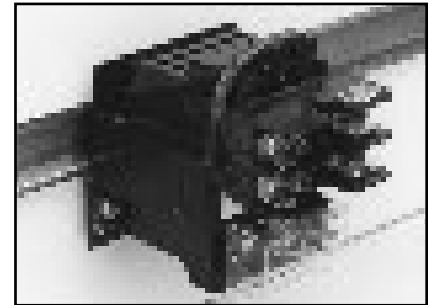


The transformer hooks on to the top edge of the DIN rail. The clamping plate is tightened up under the bottom edge of the rail.



Shows 3 sizes of PTD DIN Rail units mounted in Panel.

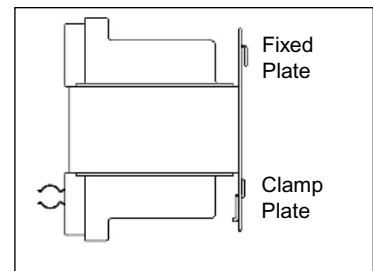
Shows a PTD DIN Rail unit mounted in a panel complete with both primary and secondary fusing options installed.



STANDARDS

Hammond Industrial and Machine Tool Control and Instrument Transformers meet or exceeds the standards established by UL, CSA, IRC, ANSI, NEMA.

Standard	File #	VA Size
UL (ANSI/UL 506)	E50394	All PTD & PHD
CSA (C22-2 No. 66)	LR3902	All PTD & PHD
IEC 989		All Molded PTD's
NEMA (ST-1)		All PTD & PHD





Features

CORE & COILS

- High quality, high permeability silicon steel laminations.
- All-welded construction.
- Computer designed copper wound coils with optimum turns ratio.

INSULATION

- Mylar, Nomex and other insulating materials are used for phase to phase and layer to layer insulation.
- The “PTD” and the “PHD” series transformers have the following insulation systems:
 - Up to 200 VA ; class A, 55°C rise, 105°C class.
 - 250 to 1000 VA ; class B, 80°C rise, 150°C class.
 - 1500 VA and up ; class F, 115°C rise, 180°C class.

VACUUM IMPREGNATION

- All Hammond Control Transformers are Vacuum Impregnated with “VT” (vinyl-toluene) Polyester Resin”.
- Oven cured after vacuum impregnating.

MOLDED CONSTRUCTION

- All PTD and PHD series transformers, up to 1000 VA, are molded in a UL 94 flame retardant polyester compound.
- These units have a thermal plastic, injection molded cover with distinctive cooling fins.

TERMINAL BLOCKS

- Fabricated from molded “high-impact” resin, finished in black.
- Combination Phillips (#2) and Robertson (# 2) Red terminal screws with #9 head, 8-32 UNF threads.
- Terminals are tinned brass and chrome plated, and all connections are soldered.
- Terminals are torque tested with automatic drivers.

NAMEPLATE

- Black letters on white background including terminal markings, schematic and CE mark(PTD series only).
- Polyester, nonconductive material.

DIN RAIL MOUNTING

- Offers a 2-way Din Rail mounting system. A welded mounting plate and an adjustable clamping plate.

FINGER SAFE TERMINAL COVERS

- Finger safe terminal covers for both fused and unfused terminals, in a clear, see through finish, are available for all molded PTD and PHD units.

STANDARD SECONDARY FUSE CLIPS

- Each “PTD” and “PHD” series transformer, that has a single secondary, comes with a factory installed secondary fuse kit (fuses not included).

Benefits

CORE & COILS

- Provides optimum performance and reliability.
- Rugged one-piece assembly with low noise.
- Enhanced voltage regulation with excellent thermal characteristics.

INSULATION

- Provides the best insulated control transformer in the industry.
- Insulation materials are of the highest rating available for the temperature class.
- Assures long life and reliable performance.

VACUUM IMPREGNATION

- Impregnating the entire unit provides a strong mechanical bond and offers protection against environmental conditions.
- Seals the surface and eliminates moisture.

MOLDED CONSTRUCTION

- Completes the protection process by sealing the core and coils against moisture, dirt and other airborne contaminants.
- Strong and durable, yet still dissipates heat quickly and efficiently.

TERMINAL BLOCKS

- Easy access to terminals while separation barriers prevent unintentional contact.
- Versatile screw head with optimum torque and retention ability.
- Assures integrity and strength of connections and terminals
- Withstands any manual installation method.

NAMEPLATE

- Ease of readability results in easier installation.
- Safe for other conductors, even in close proximity.

DIN RAIL MOUNTING

- Provides for easy and quick installation onto standard DIN rail systems with no drilling and few tools.

FINGER SAFE TERMINAL COVERS

- This ensures your protection against electric shock or accidental contact of any kind, and complies with IEC and CE requirements.

STANDARD SECONDARY FUSE CLIPS

- Accommodates 13/32” X 1 1/2” Midget Fuse.



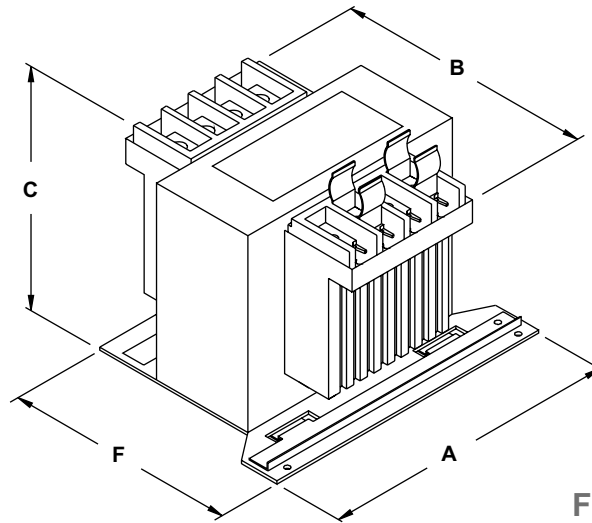


FIGURE A

Group PTD-AA

Primary Voltage	240/480, 230/460, 220/440
Secondary Voltage	120, 115, 110
CE	50/60 Hertz

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	240	H1, H4	H1-H3, H2-H4	
	230	H1, H4	H1-H3, H2-H4	
	220	H1, H4	H1-H3, H2-H4	
	480	H1, H4	H3-H2	
	460	H1, H4	H3-H2	
440	H1, H4	H3-H2		
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
120	X2, XF			
115	X2, XF			
110	X2, XF			

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions				Shipping Wt/Lbs
				"A"	"B"	"C"	"F"	
25	PTD25QM MJ	A	0.22	3.75	3.25	2.75	3.80	2.35
50	PTD50QM MJ	A	0.43	3.75	3.75	2.75	3.80	3.60
75	PTD75QM MJ	A	0.65	3.75	4.00	2.75	3.80	4.35
100	PTD100QM MJ	A	0.87	3.75	4.50	2.75	3.80	5.15
150	PTD150QM MJ	A	1.30	3.75	4.25	3.25	3.80	6.15
200	PTD200QM MJ	A	1.74	3.75	4.25	3.25	3.80	7.75
250	PTD250QM MJ	A	2.17	4.50	4.88	3.85	3.80	9.50
300	PTD300QM MJ	A	2.61	4.50	4.88	3.85	3.80	10.75
350	PTD350QM MJ	A	3.04	4.50	5.38	3.85	3.80	11.75
500	PTD500QM MJ	A	4.35	5.25	5.13	4.50	3.80	14.75

Height dimension (C) does not include secondary fuse clips. Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

The output amps are based on a 115V secondary. All dimensions in inches unless otherwise specified.





Group PTD-DD

Primary Voltage	120/240
Secondary Voltage	24
CE	50/60 Hertz

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120 240	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
24	X2, XF			

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions				Shipping Wt/Lbs
				"A"	"B"	"C"	"F"	
25	PTD25PG	A	1.04	3.75	3.25	2.75	3.80	2.35
50	PTD50PG	A	2.08	3.75	3.75	2.75	3.80	3.60
75	PTD75PG	A	3.13	3.75	4.00	2.75	3.80	4.35
100	PTD100PG	A	4.17	3.75	4.50	2.75	3.80	5.15
150	PTD150PG	A	6.25	3.75	4.25	3.25	3.80	6.15
200	PTD200PG	A	8.33	3.75	4.25	3.25	3.80	7.75
250	PTD250PG	A	10.40	4.50	4.88	3.85	3.80	9.50
300	PTD300PG	A	12.50	4.50	4.88	3.85	3.80	10.75
350	PTD350PG	A	14.60	4.50	5.38	3.85	3.80	11.75
500	PTD500PG	A	20.80	5.25	5.13	4.50	3.80	14.75

Height dimension (C) does not include secondary fuse clips. Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

All dimensions in inches unless otherwise specified.

Group PTD-LL

Primary Voltage	240/480
Secondary Voltage	12/24
CE	50/60 Hertz

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		240 480	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
12 24	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions				Shipping Wt/Lbs
				"A"	"B"	"C"	"F"	
25	PTD25QR	A	2.08/1.04	3.75	3.25	2.75	3.80	2.35
50	PTD50QR	A	4.17/2.08	3.75	3.75	2.75	3.80	3.60
75	PTD75QR	A	6.25/3.13	3.75	4.00	2.75	3.80	4.35
100	PTD100QR	A	8.33/4.17	3.75	4.50	2.75	3.80	5.15
150	PTD150QR	A	12.5/6.25	3.75	4.25	3.25	3.80	6.15
200	PTD200QR	A	16.7/8.33	3.75	4.25	3.25	3.80	7.75
250	PTD250QR	A	20.8/10.4	4.50	4.88	3.85	3.80	9.50

Primary and Secondary jumpers are included. Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.

SECTION 1



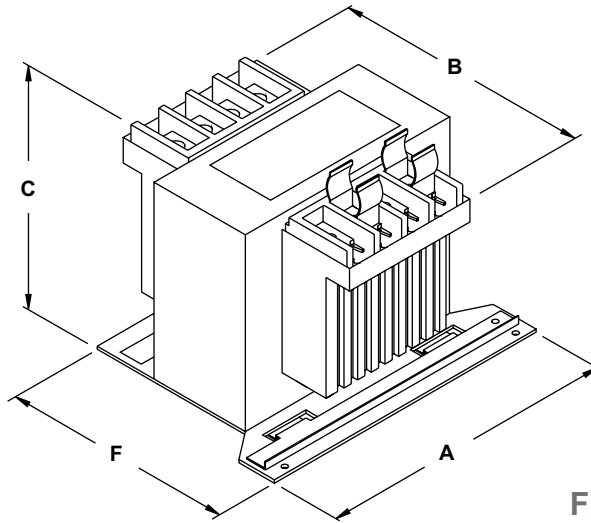


FIGURE A

Group PTD-SS

Primary Voltage	120/240
Secondary Voltage	120/240
CE	50/60 Hertz

SCHEMATIC		CONNECTIONS	
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	120 240	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Shipping Wt/Lbs	
				"A"	"B"	"C"		
25	PTD25PP	A	0.21/0.10	3.75	3.25	2.75	3.80	2.35
50	PTD50PP	A	0.42/0.21	3.75	3.75	2.75	3.80	3.60
75	PTD75PP	A	0.63/0.31	3.75	4.00	2.75	3.80	4.35
100	PTD100PP	A	0.83/0.42	3.75	4.50	2.75	3.80	5.15
150	PTD150PP	A	1.25/0.63	3.75	4.25	3.25	3.80	6.15
200	PTD200PP	A	1.67/0.83	3.75	4.25	3.25	3.80	7.75
250	PTD250PP	A	2.08/1.04	4.50	4.88	3.85	3.80	9.50
300	PTD300PP	A	2.50/1.25	4.50	4.88	3.85	3.80	10.75
350	PTD350PP	A	2.92/1.46	4.50	5.38	3.85	3.80	11.75
500	PTD500PP	A	4.17/2.08	5.25	5.06	4.50	3.80	14.75

Primary and Secondary jumpers are included.
Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.





Group PTD-TT

Primary Voltage	120/240
Secondary Voltage	12/24
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120 240	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		12 24	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			"F"	Shipping Wt/Lbs
				"A"	"B"	"C"		
25	PTD25PR	A	2.08/1.04	3.75	3.25	2.75	3.80	2.35
50	PTD50PR	A	4.17/2.08	3.75	3.75	2.75	3.80	3.60
75	PTD75PR	A	6.25/3.13	3.75	4.00	2.75	3.80	4.35
100	PTD100PR	A	8.33/4.17	3.75	4.50	2.75	3.80	5.15
150	PTD150PR	A	12.5/6.25	3.75	4.25	3.25	3.80	6.15
200	PTD200PR	A	16.7/8.33	3.75	4.25	3.25	3.80	7.75
250	PTD250PR	A	20.8/10.4	4.50	4.88	3.85	3.80	9.50
300	PTD300PR	A	29.2/14.6	4.50	4.88	3.85	3.80	10.75
350	PTD350PR	A	41.7/20.8	4.50	5.38	3.85	3.80	11.75
500	PTD500PR	A	62.5/31.3	5.25	5.06	4.50	3.80	14.75

Primary and Secondary jumpers are included.
Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.

Group PHD-A

Primary Voltage	600
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120	X2, XF	

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			"F"	Shipping Wt/Lbs
				"A"	"B"	"C"		
25	PHD25AJ	A	0.21	3.75	3.25	2.75	3.80	2.00
50	PHD50AJ	A	0.42	3.75	3.25	2.75	3.80	3.00
75	PHD75AJ	A	0.63	3.75	3.75	2.75	3.80	4.00
100	PHD100AJ	A	0.83	3.75	4.00	2.75	3.80	4.00
150	PHD150AJ	A	1.25	3.75	4.25	3.25	3.80	5.00
200	PHD200AJ	A	1.67	3.75	4.25	3.25	3.80	6.00
250	PHD250AJ	A	2.08	3.75	4.25	3.25	3.80	7.00
350	PHD350AJ	A	2.92	4.50	5.06	3.85	3.80	13.00
500	PHD500AJ	A	4.17	5.25	5.06	4.50	3.80	18.00

Height dimension (C) does not include secondary fuse clips. Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

All dimensions in inches unless otherwise specified.



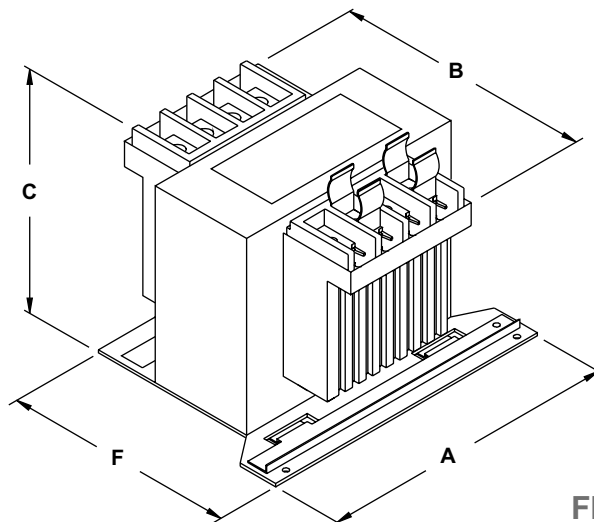


FIGURE A

Group PHD-F

Primary Voltage	240/480
Secondary Voltage	120/240

60 Hertz

SCHEMATIC		CONNECTIONS	
		Primary Volts	Supply Lines Connect To
		240 480	H1, H4 H1, H4
		Sec. Volts	Load Lines Connect To
		120 240	X1, X4 X1, X4
		Install Jumpers Between Lines	Install Jumpers Between Lines
		H1-H3, H2-H4 H2-H3	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions				Shipping Wt/Lbs
				"A"	"B"	"C"	"F"	
25	PHD25QP	A	0.21/0.10	3.75	3.25	2.75	3.80	2.00
50	PHD50QP	A	0.42/0.21	3.75	3.75	2.75	3.80	3.00
75	PHD75QP	A	0.63/0.31	3.75	4.00	2.75	3.80	4.00
100	PHD100QP	A	0.83/0.42	3.75	4.50	2.75	3.80	4.00
150	PHD150QP	A	1.25/0.63	3.75	4.25	3.25	3.80	5.00
200	PHD200QP	A	1.67/0.83	3.75	4.25	3.25	3.80	6.00
250	PHD250QP	A	2.08/1.04	4.50	4.38	3.85	3.80	7.00
350	PHD350QP	A	2.92/1.46	4.50	4.88	3.85	3.80	13.00
500	PHD500QP	A	4.17/2.08	5.25	5.06	3.85	3.80	18.00

Primary and Secondary jumpers are included.
Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.





Group PHD-K

Primary Voltage	600
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
24	X2, XF			

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			"F"	Shipping Wt/Lbs
				"A"	"B"	"C"		
25	PHD25AG	A	1.04	3.75	3.25	2.75	3.80	2.00
50	PHD50AG	A	2.08	3.75	3.25	2.75	3.80	3.00
75	PHD75AG	A	3.13	3.75	3.75	2.75	3.80	4.00
100	PHD100AG	A	4.17	3.75	4.00	2.75	3.80	4.00
150	PHD150AG	A	6.25	3.75	4.25	3.25	3.80	5.00
200	PHD200AG	A	8.33	3.75	4.25	3.25	3.80	6.00
250	PHD250AG	A	10.42	3.75	4.25	3.25	3.80	7.00

Height dimension (C) does not include secondary fuse clips. Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

All dimensions in inches unless otherwise specified.

Group PHD-N

Primary Voltage	120
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
24	X2, XF			

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			"F"	Shipping Wt/Lbs
				"A"	"B"	"C"		
25	PHD25JG	A	1.04	3.75	3.25	2.75	3.80	2.00
50	PHD50JG	A	2.08	3.75	3.25	2.75	3.80	3.00
75	PHD75JG	A	3.13	3.75	3.75	2.75	3.80	4.00
100	PHD100JG	A	4.17	3.75	4.00	2.75	3.80	4.00
150	PHD150JG	A	6.25	3.75	4.25	3.25	3.80	5.00
200	PHD200JG	A	8.33	3.75	4.25	3.25	3.80	6.00
250	PHD250JG	A	10.42	3.75	4.25	3.25	3.80	7.00

Height dimension (C) does not include secondary fuse clips. Primary jumpers and Secondary fuse clips for 13/32" X 1 1/2" fuse are included.

All dimensions in inches unless otherwise specified.





SECTION 1

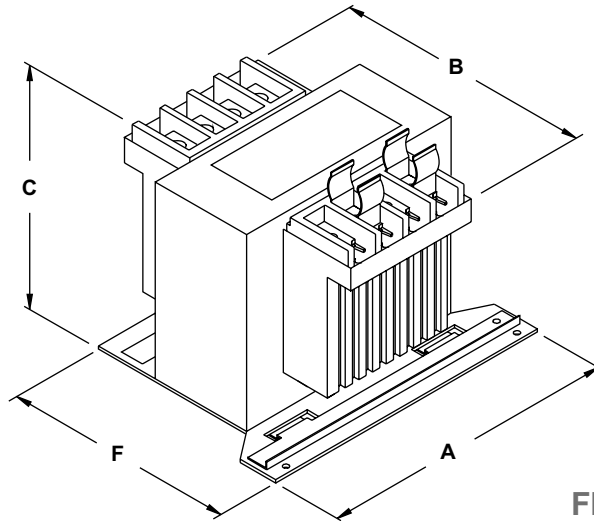


FIGURE A

Group PHD-X

Primary Voltage	600
Secondary Voltage	12/24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
12	X1, X4	X1-X3, X2-X4		
24	X1, X4	X2-X3		

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions				Shipping Wt/Lbs
				"A"	"B"	"C"	"F"	
25	PHD25AR	A	2.08/1.04	3.75	3.25	2.75	3.80	2.00
50	PHD50AR	A	4.17/2.08	3.75	3.25	2.75	3.80	3.00
75	PHD75AR	A	6.25/3.13	3.75	3.75	2.75	3.80	4.00
100	PHD100AR	A	8.33/4.17	3.75	4.00	2.75	3.80	4.00
150	PHD150AR	A	12.5/6.25	3.75	4.25	3.25	3.80	5.00
200	PHD200AR	A	16.67/8.33	3.75	4.25	3.25	3.80	6.00
250	PHD250AR	A	20.83/10.42	3.75	4.25	3.25	3.80	7.00

Secondary jumpers are included. Primary jumpers and Secondary fuse clips are not applicable.

All dimensions in inches unless otherwise specified.





PT, PH, PTD and PHD Series Fusing Options

- The PT, PH, PTD and PHD Control Transformers , with terminal covers installed comply with IEC requirements for a “finger safe” device . These control units can be sized directly to meet both North American and IEC Standards.
- All PT, PH, PTD and PHD series control transformers **with a single secondary**, come standard with 13/32” X 1 1/2” midget fuse clips on the secondary.
- Fusing options are available on all PT, PH, PTD and PHD series control transformers, **up to 5000VA on factory installed fuse kits**, and 1000VA on all field installed fuse kits.

FIELD INSTALLED FUSING OPTIONS

Field Installed Fuse Kits						
Primary (block mounted)	Secondary (clip mounted)	Maximum Applicable VA Secondary Voltage			Fuse Kit Catalog No. (Refer to Note 1)	Minimum Quantity Purchase
		12 V	24 V	120V & up		
(none)	1/4" x 1 1/4" glass	250	500	1000	FK-1-10	1 kit (of 10)
(none)	13/32" x 1 1/2" midget	250	500	1000	FK-2-10	1 kit (of 10)
Dual Rejection	13/32" x 1 1/2" midget	250	500	1000	FK-3	1 box
Dual Rejection	1/4" x 1 1/4" glass	250	500	1000	FK-6	1 box
Single Rejection	1/4" x 1 1/4" glass	250	500	1000	FK-9	1 box
Single Rejection	13/32" x 1 1/2" midget	250	500	1000	FK-10	1 box
Dual Rejection	Not Included	1000	1000	1000	FK-11	1 box
Dual Midget	Not Included	1000	1000	1000	FK-12	1 box
Dual Rejection	Single Midget (block mount)	250	500	1000	FK-14 (Note 2)	1 box

Notes:
 (1) Secondary fuse clips for 13/32 x 11/2" midget fuse are standard on all single secondary voltages.
 (2) Uses one “triple” pole fuse block containing: two rejection clips for the primary and one single midget (13/32" X 1 1/2") fuse clip for the secondary. This will allow for the fusing of most transformers containing multiple secondary voltages.

Field and Factory Installed Fuse Kit Height Dimension Adders For PT and PH Control Transformers				
VA Size	Current PT “C” Dim. Height	Current PH “C” Dim. Height	Field Installed Kit “C” Dim. Height Adder	Factory Installed Kit “C” Dim. Height Adder
25	2.75"	2.75"	1.50"	1.50"
50	2.75"	2.75"	1.50"	1.50"
75	2.75"	2.75"	1.50"	1.50"
100	2.75"	2.75"	1.50"	1.33"
150	3.25"	3.25"	1.50"	1.33"
200	3.25"	3.25"	1.50"	1.45"
250	3.85"	3.85"	1.50"	1.45"
350	3.85"	3.85"	1.50"	1.50"
500	4.50"	5.10"	1.30"	1.50"
750	4.50"	5.10"	1.30"	1.50"
1000	4.50"	5.10"	1.30"	1.50"
1500	5.50"	6.25"	N/A	1.50"
2000	5.50"	6.25"	N/A	1.50"
3000	6.38"	6.25"	N/A	1.50"
5000	7.63"	7.50"	N/A	1.50"
7500	NA	7.50"	N/A	N/A

SECTION 1



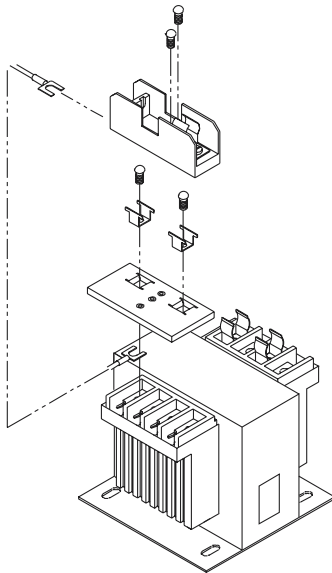


PT, PH, PTD, PHD Series Fusing Options con't ...

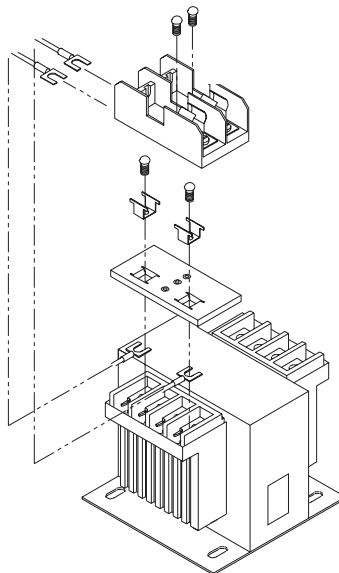
FIELD INSTALLED PRIMARY FUSE KITS

Convenient and versatile primary fuse kits are available to suit any nominal supply voltage. Assembled as a single pole primary fuse block, line to neutral voltage such as 120 volts, can be accommodated. As a double pole fuse block, line to line voltage can be fused, including 600, 480, 240 volts. Either the safety-rejection type or the standard midget style fuse can be used by selecting the appropriate fuse kit below. All Hammond pre-engineered primary fuse kits includes a fuse block, lead wire harness, mounting plate and clips, and all necessary mounting hardware.

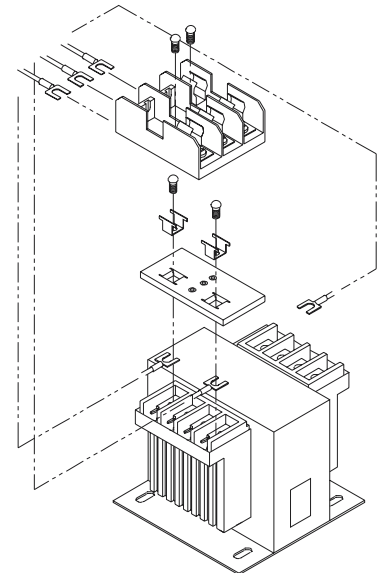
Single Pole Fuse Kit (for units up to 1000VA)



Double Pole Fuse Kit (for units up to 1000VA)

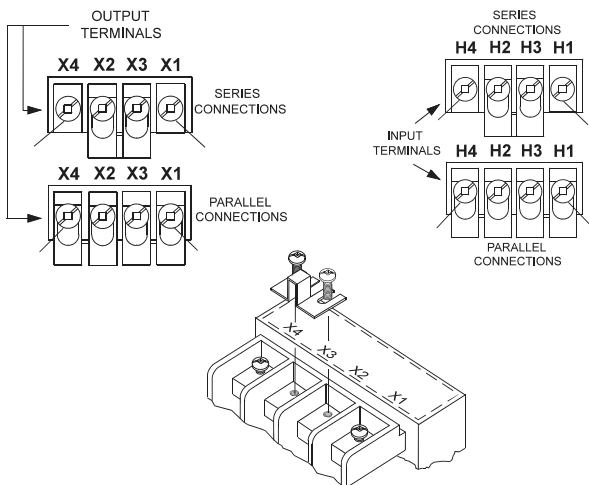


Triple Pole Fuse Kit (for units up to 1000VA)



Voltage Links

- Voltage links are separately packaged for user installation to ensure links are installed on the correct voltage combination. The links are included at **no charge**.



Field Installed Secondary Fuse Kits

- Secondary Fuse kits consist of all necessary fuse clips, hardware and voltage links.
- Fuse clips are easy to install in the terminal block (see diagram below). Fuses are then easily snapped into place. (Fuses not included)



SECTION 1



Factory Installed Fusing Options

- When factory installed fusing options are selected by adding the appropriate suffix, transformers will be shipped with the corresponding primary and secondary fusing as indicated in the chart below.

Factory Installed Fused Kits					
Primary (block mounted)	Secondary (clip mounted)	Maximum Applicable VA Secondary Voltage			Add 'Suffix' to Catalog Part Number <small>(Min. order 10 pieces)</small>
		12 V	24 V	120V & up	
(none)	Not Installed	-	-	-	-0
(none)	1/4" x 1 1/4" glass	250	500	1000	-1
(none)	13/32" x 1 1/2" midget	250	500	1000	Standard (Note 1)
Dual Rejection	13/32" x 1 1/2" midget	250	500	1000	-3 (Note 2)
Dual Rejection	1/4" x 1 1/4" glass	250	500	1000	-4
Single Rejection	1/4" x 1 1/4" glass	250	500	1000	-5
Single Rejection	13/32" x 1 1/2" midget	250	500	1000	-6
Dual Rejection	Not included	5000	5000	5000	-7
Dual Midget	Not included	5000	5000	5000	-8
Dual Rejection	Single Midget (block mount)	250	500	3000	-9 (Note 3)

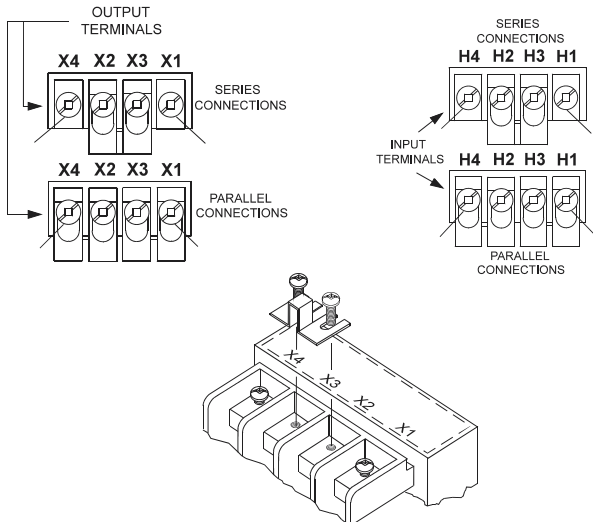
Notes:

- Secondary fuse clips for 13/32 x 11/2" midget fuse are standard on all single secondary voltages.
- Primary Dual Rejection/Secondary Midget fuse kits (-3) are stocked in the following voltage combination:

Group AA (PT___MQMJ)	> Primary 240/480 volts, Secondary 120 volts
Group CC (PT___QG)	> Primary 240/480 volts, Secondary 24 volts
Group A (PH___AJ)	> Primary 600 volts, Secondary 120 volts
Group PTD-AA (PTD___MQMJ)	> Primary 240/480 volts, Secondary 120 volts
Group PHD-A (PHD___AJ)	> Primary 600 volts, Secondary 120 volts
- Uses one "triple" pole fuse block containing: two rejection clips for the primary and one single midget (13/32" X 1 1/2") fuse clip for the secondary. This will allow for the fusing of most transformers containing multiple secondary voltages.

Voltage Links

- Voltage links are separately packaged for user installation to ensure links are installed on the correct voltage combination. The links are included at **no charge**.



Factory Installed Secondary Fuse Kits

- Secondary Fuse kits consist of all necessary fuse clips, hardware and voltage links.
- Fuse clips are easy to install in the terminal block (see diagram below). Fuses are then easily snapped into place. (Fuses not included)





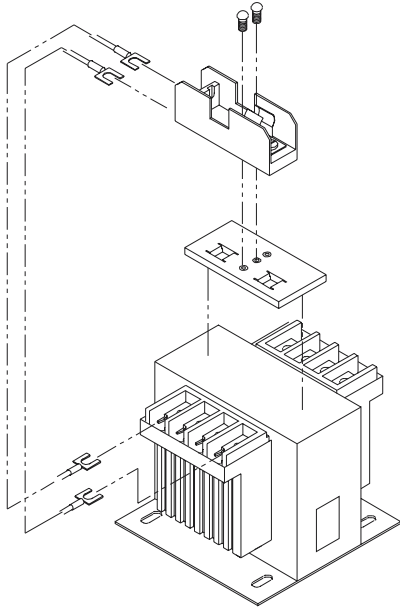
PT, PH, PTD, PHD Series Fusing Options can't ...

FACTORY INSTALLED PRIMARY FUSE KITS

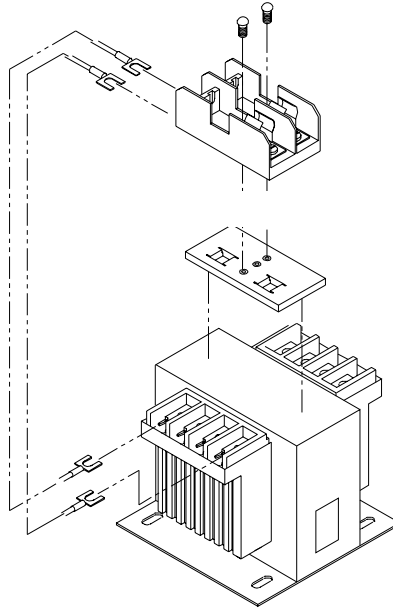
Our pre-engineered factory installed primary fuse kits, **now mounted directly onto the transformer core**, includes the fuse block, lead wire harness, mounting plate and hardware.

SECTION 1

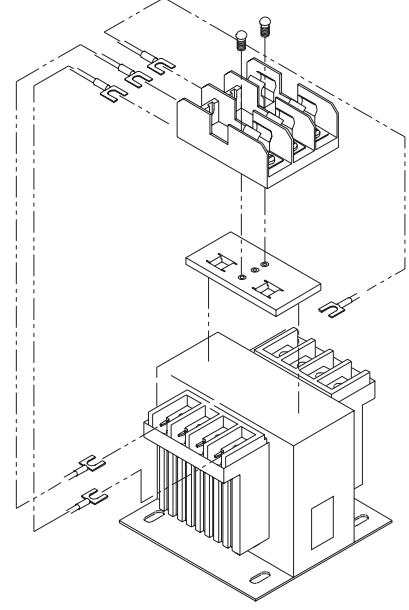
Single Pole Fuse Kit (for units up to 1000VA)



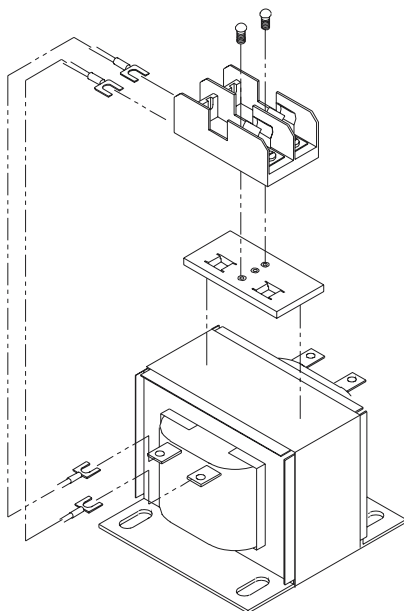
Double Pole Fuse Kit (for units up to 1000VA)



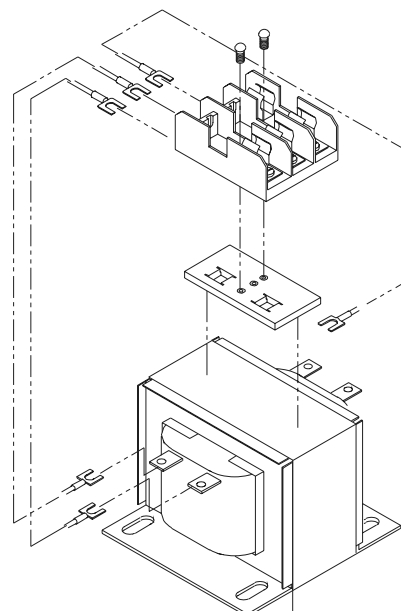
Triple Pole Fuse Kit (for units up to 1000VA)



Double Pole Fuse Kit (for Open Style units over 1000VA)



Triple Pole Fuse Kit (for Open Style units over 1000VA)





Recommendations For Overcurrent Protection

SECTION 1

UL AND CSA (NORTH AMERICAN) STANDARDS

North American standards, including UL 508, National Electric Code 450 and the Canadian Electrical Code Part I, require overcurrent protection on all control circuit transformers. There are two options for overcurrent protection:

Option 1

Provide an overcurrent device in the primary circuit rated to the current of the transformer. The overcurrent limits are as follows:

- Primary 9 amps or more; no more than 125% of rated current.
- Primary 2 to 9 amps; no more than 167% of rated current.
- Primary less than 2 amps; no more than 300% of rated current for power circuits.
no more than 500% of rated current for control circuits.

This method is considered less desirable as start-up inrush to the transformer can frequently surpass the current rating of the device and result in nuisance interruptions.

Option 2

The second option is to install overcurrent devices in both the primary and secondary circuits of the transformer. In this option, the secondary device must be rated no more than 125% of rated current of the transformer and the primary no more than 250%. (CEC permits 300% overcurrent on the primary for this option).

In both options listed, it is recommended that **time delay** fuses be considered to avoid unnecessary interruptions.

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	3-1/2	7	10	15	20	30	-	-	-	-	-	-	-	-	-	-
24	1-6/10	3-2/10	5	6-1/4	10	12	15	20	20	30	-	-	-	-	-	-
90	4/10	8/10	1-1/4	1-8/10	2-1/2	3-1/2	4-1/2	5	6-1/4	9	12	15	30	30	-	-
95	4/10	8/10	1-1/4	1-6/10	2-1/2	3-1/2	4	5	6	8	12	15	20	30	-	-
100	4/10	8/10	1-1/4	1-6/10	2-1/2	3-2/10	4	5	5-6/10	8	12	15	20	30	-	-
110	3/10	3/4	1-1/8	1-1/2	2-1/4	3	3-1/2	4-1/2	5	7-1/2	10	15	20	30	-	-
115	3/10	6/10	1	1-4/10	2	2-8/10	3-1/2	4	5	7	10	15	20	30	-	-
120	3/10	6/10	1	1-1/4	2	2-1/2	3-2/10	4	4-1/2	6-1/4	10	15	20	20	-	-
220	15/100	3/10	1/2	3/4	1-1/8	1-1/2	1-8/10	2-1/4	2-1/2	3-1/2	5-6/10	7	9	15	20	30
230	15/100	3/10	1/2	6/10	1	1-4/10	1-8/10	2	2-1/2	3-1/2	5	7	8	15	20	30
240	15/100	3/10	1/2	6/10	1	1-1/4	1-6/10	2	2-1/4	3-2/10	5	7	8	12	20	30





Recommendations For Overcurrent Protection con't...

Primary (UL and CSA)

To assist in the selection of fuses, the following chart recommends the maximum primary fuse rating, in amperes. The first 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%. The second number shown (in brackets) is recommended when the primary is less than 2 amps and the overcurrent device is to be rated at 500% of rated current. Where only one number is indicated, the primary is 2 amps or more and one rating of over current protection is shown as optimal. Choose the next higher fuse rating if these numbers do not correspond with standard fuse selections.

SECTION 1

Pri. Volt	VA RATING																
	25	50	75	100	150	200	250	300	350	500	750	1000	1500	2000	3000	5000	7500
115 (1)	6/10 (2)	1-1/4 (3-2/10)	1-8/10 (4)	2-1/2 (6-1/4)	3-1/2 (8)	5	4	5	5	8	10	15	20	25	-	-	-
120 (1)	6/10 (2)	1-1/4 (3)	1-8/10 (4)	2-1/4 (6-1/4)	3-1/2 (8)	5	4	5	5	8	10	15	15	20	-	-	-
200 (6/10)	3/10 (1-1/4)	3/4 (1-8/10)	1-1/8 (2-1/2)	1-1/2 (3-1/2)	2-1/4 (5)	3 (6-1/4)	3-1/2 (7-1/2)	4-1/2 (8)	5	4-1/2	7	9	15	15	20	-	-
208 (6/10)	3/10 (1-1/8)	6/10 (1-8/10)	1 (2-1/4)	1-4/10 (3-1/2)	2 (4-1/2)	2-8/10 (6)	3-1/2 (7)	4 (8)	5	4	6	8	12	15	20	30	-
220 (1/2)	3/10 (1-1/8)	6/10 (1-6/10)	1 (2-1/4)	1-1/4 (3-2/10)	2 (4-1/2)	2-1/2 (5-6/10)	3-2/10 (6-1/4)	4 (7-1/2)	4-1/2	4	6	8	12	15	20	30	-
230 (1/2)	3/10 (1)	6/10 (1-6/10)	8/10 (2)	1-1/4 (3-2/10)	1-8/10 (4)	2-1/2 (5)	3-2/10 (6-1/4)	3-1/2 (7-1/2)	4-1/2	4	6	8	10	15	20	30	-
240 (1/2)	3/10 (1)	6/10 (1-1/2)	8/10 (2)	1-1/4 (3)	1-8/10 (4)	2-1/4 (5)	3 (6-1/4)	3-1/2 (7)	4	3-1/2	5	7	10	15	15	30	-
277 (4/10)	1/4 (8/10)	1/2 (1-1/4)	8/10 (1-8/10)	1 (2-1/2)	1-6/10 (3-1/2)	2 (4-1/2)	2-1/2 (5)	3-2/10 (6-1/4)	3-1/2 (9)	5	5	6	9	12	15	25	-
347 (4/10)	1/4 (8/10)	1/2 (1-1/4)	8/10 (1-8/10)	1 (2-1/2)	1-6/10 (3-1/2)	2 (4-1/2)	2-1/2 (5)	3-2/10 (6-1/4)	3-1/2 (9)	5	6-1/4	5	7-1/2	10	15	20	30
380 (3/10)	3/16 (6/10)	3/10 (8/10)	1/2 (1-1/4)	3/4 (1-8/10)	1-1/8 (2-1/2)	1-1/2 (3-2/10)	1-8/10 (3-1/2)	2-1/4 (4-1/2)	2-1/2 (6-1/4)	3-1/2 (9)	5-6/10	4-1/2	6-1/4	9	15	20	25
400 (3/10)	3/16 (6/10)	3/10 (8/10)	1/2 (1-1/4)	3/4 (1-8/10)	1-1/8 (2-1/2)	1-1/2 (3)	1-8/10 (3-1/2)	2-1/4 (4)	2-1/2 (6-1/4)	3-1/2 (9)	5-6/10	4-1/2	6-1/4	9	12	15	20
416 (3/10)	15/100 (6/10)	3/10 (8/10)	1/2 (1-1/8)	6/10 (1-8/10)	1 (2-1/4)	1-4/10 (3)	1-8/10 (3-1/2)	2 (4)	2-1/2 (6)	3-1/2 (9)	5	4	6	8	12	15	20
440 (1/4)	15/100 (1/2)	3/10 (8/10)	1/2 (1-1/8)	6/10 (1-6/10)	1 (2-1/4)	1-1/4 (2-8/10)	1-6/10 (3-2/10)	2 (3-1/2)	2-1/4 (5-6/10)	3-2/10 (8)	5	4	6	8	12	15	20
460 (1/4)	15/100 (1/2)	3/10 (8/10)	4/10 (1)	6/10 (1-6/10)	8/10 (2)	1-1/4 (2-1/2)	1-6/10 (3-2/10)	1-8/10 (3-1/2)	2-1/4 (5)	3-2/10 (8)	4-1/2	3-1/2	6	8	12	15	20
480 (1/4)	15/100 (1/2)	3/10 (3/4)	4/10 (1)	6/10 (1-1/2)	8/10 (2)	1-1/4 (2-1/2)	1-1/2 (3)	1-8/10 (3-1/2)	2 (5)	3 (7-1/2)	4-1/2	3-1/2	5	7	10	15	20
550 (2/10)	1/8 (4/10)	1/4 (6/10)	4/10 (8/10)	1/2 (1-1/4)	8/10 (1-8/10)	1 (2-1/4)	1-1/4 (2-1/2)	1-6/10 (3)	1-8/10 (4-1/2)	2-1/2 (6-1/4)	4	5	4-1/2	6	9	15	15
575 (2/10)	1/8 (4/10)	1/4 (6/10)	3/10 (8/10)	1/2 (1-1/4)	3/4 (1-6/10)	1 (2)	1-1/4 (2-1/2)	1-1/2 (3)	1-8/10 (4)	2-1/2 (6-1/4)	3-1/2	5	4-1/2	6	9	15	15
600 (2/10)	1/8 (4/10)	2/10 (6/10)	3/10 (8/10)	1/2 (1-1/4)	3/4 (1-6/10)	8/10 (2)	1-1/4 (2-1/2)	1-1/2 (2-8/10)	1-6/10 (4)	2-1/4 (6-1/4)	3-1/2	5	4	6	9	15	15

References:
UL 508, 32.7
UL 845, 11.16 and 11.17
NEC 430-72 (c) exception #2
NEC 450-3 (b) 1 and 2
CEC Part I, 26-256





IEC (EUROPEAN) STANDARDS

IEC (European) Standards are very different from UL (North American) standards including fuses and fuse selection guidelines. As the electrical characteristics of these fuses are different, UL and IEC rated fuses are **NOT interchangeable**. Of significance is the time current characteristics. Fuses built to North American standards **DO NOT MEET** European Standards.

Unlike North American standards whereby overcurrent protection is to be 125% of the rated current of the transformer (25% derated), **no derating** is required for IEC Fusing applications.

Secondary (IEC)

Sec. Volt	MAXIMUM RECOMMENDED IEC FUSE RATING											
	25VA	50VA	75VA	100VA	150VA	200VA	250VA	300VA	350VA	500VA	750VA	1000VA
12 V	2.08 A	4.17 A	6.25 A	8.33 A	9.00 A	16.67 A	20.83 A	25.00 A	29.17 A	41.67 A	62.50 A	83.33 A
24 V	1.04 A	2.08 A	3.13 A	4.17 A	1.08 A	8.33 A	10.42 A	12.50 A	14.58 A	20.83 A	31.25 A	41.67 A
90 V	0.28 A	0.56 A	0.83 A	1.11 A	0.49 A	2.22 A	2.78 A	3.33 A	3.89 A	5.56 A	8.33 A	11.11 A
95 V	0.26 A	0.53 A	0.79 A	1.05 A	0.23 A	2.11 A	2.63 A	3.16 A	3.68 A	5.26 A	7.89 A	10.53 A
100 V	0.25 A	0.50 A	0.75 A	1.00 A	0.12 A	2.00 A	2.50 A	3.00 A	3.50 A	5.00 A	7.50 A	10.00 A
110 V	0.23 A	0.45 A	0.68 A	0.91 A	0.06 A	1.82 A	2.27 A	2.73 A	3.18 A	4.55 A	6.82 A	9.09 A
115 V	0.22 A	0.43 A	0.65 A	0.87 A	0.04 A	1.74 A	2.17 A	2.61 A	3.04 A	4.35 A	6.52 A	8.70 A
120 V	0.21 A	0.42 A	0.63 A	0.83 A	0.02 A	1.67 A	2.08 A	2.50 A	2.92 A	4.17 A	6.25 A	8.33 A
220 V	0.11 A	0.23 A	0.34 A	0.45 A	0.02 A	0.91 A	1.14 A	1.36 A	1.59 A	2.27 A	3.41 A	4.55 A
230 V	0.11 A	0.22 A	0.33 A	0.43 A	0.03 A	0.87 A	1.09 A	1.30 A	1.52 A	2.17 A	3.26 A	4.35 A
240 V	0.10 A	0.21 A	0.31 A	0.42 A	0.03 A	0.83 A	1.04 A	1.25 A	1.46 A	2.08 A	3.13 A	4.17 A

Note: IEC publication 127, Sheet III, Type M fuses are recommended.

Primary (IEC)

Pri. Volt	MAXIMUM RECOMMENDED IEC FUSE RATING											
	25VA	50VA	75VA	100VA	150VA	200VA	250VA	300VA	350VA	500VA	750VA	1000VA
230 V	0.11 A	0.22 A	0.33 A	0.43 A	0.03 A	0.87 A	1.09 A	1.30 A	1.52 A	2.17 A	3.26 A	4.35 A
240 V	0.10 A	0.21 A	0.31 A	0.42 A	0.03 A	0.83 A	1.04 A	1.25 A	1.46 A	2.08 A	3.13 A	4.17 A
115 V	0.31 A	0.57 A	0.78 A	1.10 A	1.57 A	1.98 A	2.50 A	2.92 A	3.44 A	5.01 A	7.25 A	9.44 A
120 V	0.30 A	0.55 A	0.75 A	1.05 A	1.50 A	1.90 A	2.40 A	2.80 A	3.30 A	4.80 A	6.95 A	9.05 A
200 V	0.18 A	0.33 A	0.45 A	0.63 A	0.90 A	1.14 A	1.44 A	1.68 A	1.98 A	2.88 A	4.17 A	5.43 A
208 V	0.17 A	0.32 A	0.43 A	0.61 A	0.87 A	1.10 A	1.38 A	1.62 A	1.90 A	2.77 A	4.01 A	5.22 A
220 V	0.16 A	0.30 A	0.41 A	0.57 A	0.82 A	1.04 A	1.31 A	1.53 A	1.80 A	2.62 A	3.79 A	4.94 A
230 V	0.16 A	0.29 A	0.39 A	0.55 A	0.78 A	0.99 A	1.25 A	1.46 A	1.72 A	2.50 A	3.63 A	4.72 A
240 V	0.15 A	0.28 A	0.38 A	0.53 A	0.75 A	0.95 A	1.20 A	1.40 A	1.65 A	2.40 A	3.47 A	4.53 A
277 V	0.13 A	0.24 A	0.32 A	0.45 A	0.65 A	0.82 A	1.04 A	1.21 A	1.43 A	2.08 A	3.01 A	3.92 A
347 V	0.10 A	0.19 A	0.26 A	0.36 A	0.52 A	0.66 A	0.83 A	0.97 A	1.14 A	1.66 A	2.40 A	3.13 A
380 V	0.09 A	0.17 A	0.24 A	0.33 A	0.47 A	0.60 A	0.76 A	0.88 A	1.04 A	1.52 A	2.19 A	2.86 A
400 V	0.09 A	0.17 A	0.23 A	0.32 A	0.45 A	0.57 A	0.72 A	0.84 A	0.99 A	1.44 A	2.08 A	2.71 A
416 V	0.09 A	0.16 A	0.22 A	0.30 A	0.43 A	0.55 A	0.69 A	0.81 A	0.95 A	1.38 A	2.00 A	2.61 A
440 V	0.08 A	0.15 A	0.20 A	0.29 A	0.41 A	0.52 A	0.65 A	0.76 A	0.90 A	1.31 A	1.90 A	2.47 A
460 V	0.08 A	0.14 A	0.20 A	0.27 A	0.39 A	0.50 A	0.63 A	0.73 A	0.86 A	1.25 A	1.81 A	2.36 A
480 V	0.07 A	0.14 A	0.19 A	0.26 A	0.38 A	0.47 A	0.60 A	0.70 A	0.82 A	1.20 A	1.74 A	2.26 A
550 V	0.07 A	0.12 A	0.16 A	0.23 A	0.33 A	0.41 A	0.52 A	0.61 A	0.72 A	1.05 A	1.52 A	1.97 A
575 V	0.06 A	0.11 A	0.16 A	0.22 A	0.31 A	0.40 A	0.50 A	0.58 A	0.69 A	1.00 A	1.45 A	1.89 A
600 V	0.06 A	0.11 A	0.15 A	0.21 A	0.30 A	0.38 A	0.48 A	0.56 A	0.66 A	0.96 A	1.39 A	1.81 A

Note: IEC publication 127, Sheet I, Type T fuses are recommended.





SL Series Control Transformers

Applications

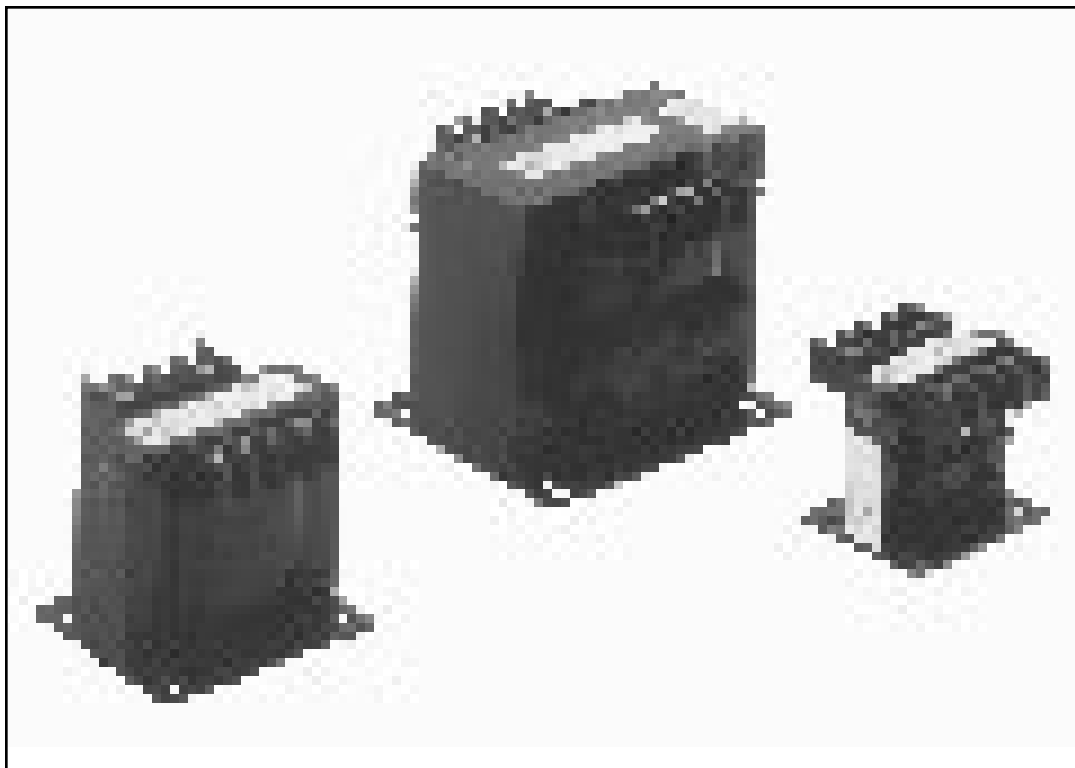
Hammond is pleased to introduce a line of specialty control transformers ideally suited for general purpose, industrial, light duty loads. Designed for applications where high inrush or machine tool duty are not necessary, the SL control transformer offers an efficient and economical solution. These units are well suited for HVAC applications, signal and alarm systems, small motors, lighting and circuit isolation.

The SL control transformer is an open style unit with molded terminal blocks, but available with a full array of features including 10 fusing options, multiple primary and secondary voltages and optional clear plastic 'finger safe' terminal covers.

For an economical approach for control transformers, the SL is the transformer of choice.

Features

- CSA Certified (file LR3902 and LR38216), UL Listed (file E50394).
- Meets NEMA and ANSI standards.
- Molded terminal blocks for primary and secondary connections up to 1000 VA. Open terminals over 1000 VA.
- 60 Hz Operation
- Welded core construction
- Coils with high dielectric strength insulation.
- All SL Series Transformers are Vacuum Impregnated with "VT" (vinyl-toluene) Polyester Resin and oven cured.
- Mylar®, Nomex® and other insulating materials are used. The SL series transformers have the following insulation systems:
 - Up to 250 VA: 55°C rise, 105°C temperature class (A)
 - 250 VA to 1500 VA: 80°C rise, 130°C temperature class (B)
 - 2000 VA to 5000 VA: 115°C rise, 180°C temperature class (F)





SL Series Selection Tables

SECTION 1

Primary Voltage	Secondary Voltage	PART NUMBERS							
		25 VA	50 VA	75 VA	100 VA	150 VA	200 VA	250 VA	350 VA
600	240	SL25AM	SL50AM	SL75AM	SL100AM	SL150AM	SL200AM	SL250AM	SL350AM
600	120/240	SL25AP	SL50AP	SL75AP	SL100AP	SL150AP	SL200AP	SL250AP	SL350AP
600	120	SL25AJ	SL50AJ	SL75AJ	SL100AJ	SL150AJ	SL200AJ	SL250AJ	SL350AJ
600	24	SL25AG	SL50AG	SL75AG	SL100AG	SL150AG	SL200AG	SL250AG	SL350AG
600	12/24	SL25AR	SL50AR	SL75AR	SL100AR	SL500AR	SL200AR	SL250AR	SL350AR
600	12	SL25AE	SL50AE	SL75AE	SL100AE	SL150AE	SL200AE	SL250AE	SL350AE
480	240	SL25CM	SL50CM	SL75CM	SL100CM	SL150CM	SL200CM	SL250CM	SL350CM
480	120	SL25CJ	SL50CJ	SL75CJ	SL100CJ	SL150CJ	SL200CJ	SL250CJ	SL350CJ
480	24	SL25CG	SL50CG	SL75CG	SL100CG	SL150CG	SL200CG	SL250CG	SL350CG
480	12/24	SL25CR	SL50CR	SL75CR	SL100CR	SL150CR	SL200CR	SL250CR	SL350CR
347	120/240	SL25KP	SL50KP	SL75KP	SL100KP	SL150KP	SL200KP	SL250KP	SL350KP
240/480	120	SL25QJ	SL50QJ	SL75QJ	SL100QJ	SL150QJ	SL200QJ	SL250QJ	SL350QJ
240/480	120/240	SL25QP	SL50QP	SL75QP	SL100QP	SL150QP	SL200QP	SL250QP	SL350QP
240/480	12/24	SL25QR	SL50QR	SL75QR	SL100QR	SL150QR	SL200QR	SL250QR	SL350QR
240	120	SL25MJ	SL50MJ	SL75MJ	SL100MJ	SL150MJ	SL200MJ	SL250MJ	SL350MJ
208	120	SL25LJ	SL50LJ	SL75LJ	SL100LJ	SL150LJ	SL200LJ	SL250LJ	SL350LJ
208	24	SL25LG	SL50LG	SL75LG	SL100LG	SL150LG	SL200LG	SL250LG	SL350LG
120/240	24	SL25PG	SL50PG	SL75PG	SL100PG	SL150PG	SL200PG	SL250PG	SL350PG
120	12/24	SL25JR	SL50JR	SL75JR	SL100JR	SL150JR	SL200JR	SL250JR	SL350JR
120	24	SL25JG	SL50JG	SL75JG	SL100JG	SL150JG	SL200JG	SL250JG	SL350JG
120	12	SL25JE	SL50JE	SL75JE	SL100JE	SL150JE	SL200JE	SL250JE	SL350JE

Primary Voltage	Secondary Voltage	PART NUMBERS						
		500 VA	750 VA	1000 VA	1500 VA	2000 VA	3000 VA	5000 VA
600	240	SL500AM	SL750AM	SL1000AM	SL1500AM	SL2000AM		
600	120/240	SL500AP	SL750AP	SL1000AP	SL1500AP	SL2000AP		
600	120	SL500AJ	SL750AJ	SL1000AJ	SL1500AJ	SL2000AJ	SL3000AJ	SL5000AJ
600	24	SL500AG						
600	12/24	SL500AR						
600	12	SL500AE						
480	240	SL500CM	SL750CM	SL1000CM	SL1500CM	SL2000CM		
480	120	SL500CJ	SL750CJ	SL1000CJ	SL1500CJ	SL2000CJ	SL3000CJ	
480	24	SL500CG						
480	12/24	SL500CR						
347	120/240	SL500KP	SL750KP	SL1000KP	SL1500KP	SL2000KP		
240/480	120	SL500QJ	SL750QJ	SL1000QJ	SL1500QJ	SL2000QJ		
240/480	120/240	SL500QP	SL750QP	SL1000QP	SL1500QP	SL2000QP		
240/480	12/24	SL500QR						
240	120	SL500MJ	SL750MJ	SL1000MJ	SL1500MJ	SL2000MJ		
208	120	SL500LJ	SL750LJ	SL1000LJ	SL1500LJ	SL2000LJ		
208	24	SL500LG						
120/240	24	SL500PG						
120	12/24	SL500JR						
120	24	SL500JG						
120	12	SL500JE						



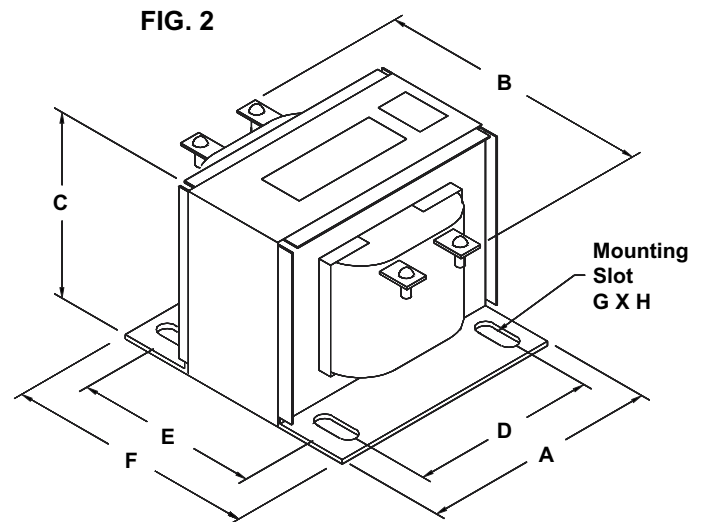
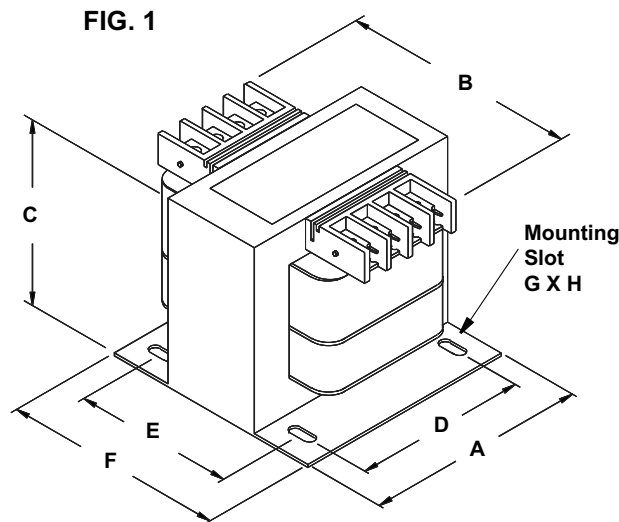


SL Series Dimensional Data

VA Size	Fig. No.	SL Dimensions							Weight (Lbs.)
		A	B	C	D	E	F	Slot G X H	
25 VA	1	3.00	3.00	2.75	2.50	1.75	2.50	0.22 X 0.44	2.00
50 VA	1	3.00	3.00	2.75	2.50	1.75	2.50	0.22 X 0.44	2.10
75 VA	1	3.00	3.50	2.75	2.50	2.50	3.25	0.22 X 0.44	3.40
100 VA	1	3.00	3.75	2.75	2.50	2.50	3.25	0.22 X 0.44	3.90
150 VA	1	3.00	4.25	2.75	2.50	3.00	3.75	0.22 X 0.44	4.70
200 VA	1	3.75	3.63	3.25	3.13	2.75	3.50	0.22 X 0.56	4.90
250 VA	1	3.75	3.63	3.25	3.13	2.75	3.50	0.22 X 0.56	5.20
350 VA	1	3.75	4.75	3.25	3.13	3.50	4.25	0.22 X 0.56	7.90
500 VA	1	4.50	4.88	3.85	3.75	3.13	4.00	0.28 X 0.56	8.80
750 VA	1	5.25	4.88	4.50	4.38	3.56	4.56	0.31 X 0.75	14.90
1000 VA	1	5.25	5.38	4.50	4.38	3.56	4.56	0.31 X 0.75	18.20
1500 VA	2	7.00	5.75	5.50	4.50/6.00	4.38	5.75	0.31 X 1.00	26.60
2000 VA	2	7.00	8.25	5.50	4.50/6.00	5.13	6.50	0.38 X 1.00	32.30
3000 VA	2	7.00	8.25	5.50	4.50/6.00	6.25	6.50	0.38 X 1.00	42.90
5000 VA	2	9.00	9.75	7.50	5.25/7.00	6.25	8.00	0.44 X 1.00	88.60

All Dimensions In Inches

- Note:**
- with a primary fuse kit installed, the depth 'B' and height 'C' dimensions will increase as follows:
depth: 'B' + 0.5" height: 'C' + 1.5"
 - with a secondary fuse kit installed, the height 'C' dimension will increase as follows: 'C' + 0.5"
 - all dimensions are +/- 0.060" unless otherwise noted.



SECTION 1



SL Series Fusing Options

Both primary and secondary fuse kits are also available for the 'SL Series' control transformers, either factory installed or field installed from prepackaged kits.

FIELD INSTALLED FUSING OPTIONS

Field Installed Fuse Kits						
Primary (block mounted)	Secondary (clip mounted)	Maximum Applicable VA			Fuse Kit Catalog No.	Minimum Quantity Purchase
		Secondary Voltage				
		12 V	24 V	120V & up		
(none)	1/4" x 1 1/4" glass	250	500	1000	FK-1-10	1 kit (of 10)
(none)	13/32" x 1 1/2" midget	250	500	1000	FK-2-10	1 kit (of 10)
Dual Rejection	13/32" x 1 1/2" midget	250	500	1000	FK-3	1 box
Dual Rejection	1/4" x 1 1/4" glass	250	500	1000	FK-6	1 box
Single Rejection	1/4" x 1 1/4" glass	250	500	1000	FK-9	1 box
Single Rejection	13/32" x 1 1/2" midget	250	500	1000	FK-10	1 box
Dual Rejection	Not Included	1000	1000	1000	FK-11	1 box
Dual Midget	Not Included	1000	1000	1000	FK-12	1 box
Dual Rejection	Single Midget (block mount)	1000	1000	1000	FK-14 (Note 1)	1 box

Notes:

(1) Uses one "triple" pole fuse block containing: two rejection clips for the primary and one single midget (13/32" X 1 1/2") fuse clip for the secondary. This will allow for the fusing of most transformers containing multiple secondary voltages.

Secondary Fuse Kits

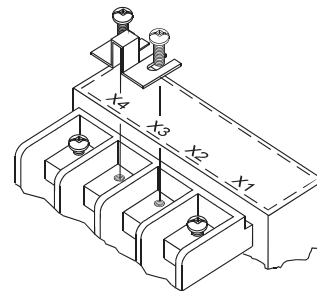
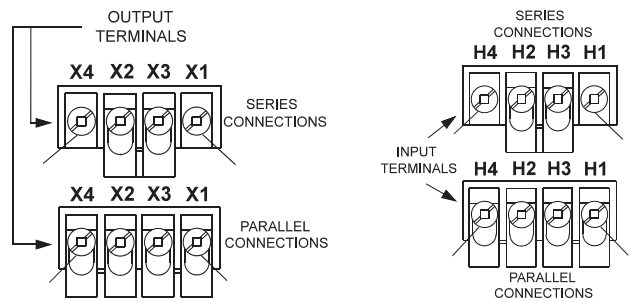
To protect the transformer from the load, secondary fuse kits are available. Fuse clips for either 1/4" X 1 1/4" fuses or 13/32" X 1 1/2" fuses are optional. Both are suitable for single secondary SL series transformers. Secondary Fuse Kits consist of all necessary fuse clips, mounting hardware and voltage links. Fuse kits are easy to install on the terminal block (see diagram below). Fuses are then easily snapped into place.

(Fuses not included).



Voltage Links

Voltage links are separately packaged for user installation to ensure links are installed on the correct voltage combination. The links are included at **no charge**.



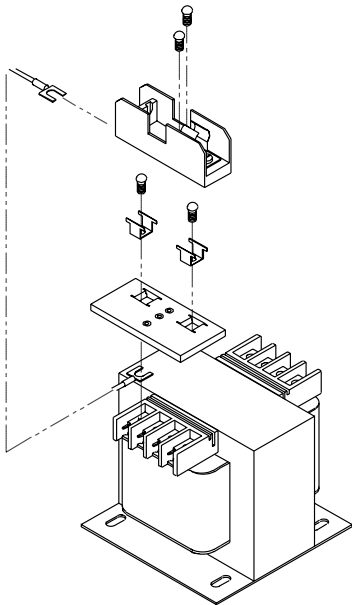


SL Series Fusing Options can't ...

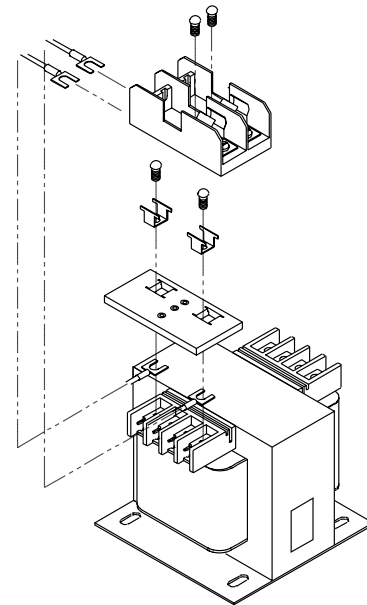
Field Installed Primary Fuse Kits

Convenient and versatile primary fuse kits are available to suit any nominal supply voltage. Assembled as a single pole primary fuse block, line to neutral voltage such as 120 volts, can be accommodated. As a double pole fuse block, line to line voltage can be fused, including 600, 480, 240 volts. Either the safety-rejection type or the standard midget style fuse can be used by selecting the appropriate fuse kit below. All Hammond pre-engineered primary fuse kits includes a fuse block, lead wire harness, mounting plate and clips, and all necessary mounting hardware.

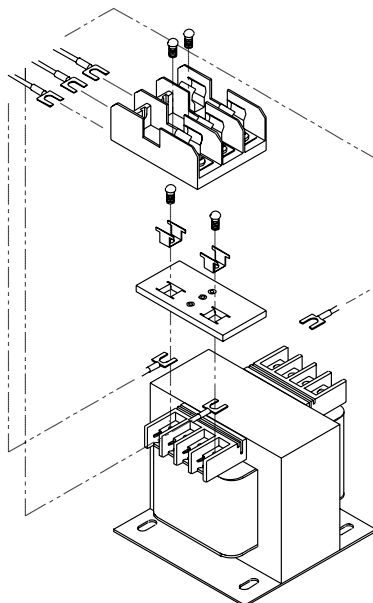
Single Pole Fuse Kit (for units up to 1000VA)



Double Pole Fuse Kit (for units up to 1000VA)



Triple Pole Fuse Kit (for units up to 1000VA)



SECTION 1





FACTORY INSTALLED FUSING OPTIONS

- When factory installed fusing options are selected by adding the appropriate suffix, transformers will be shipped with the corresponding primary and secondary fusing as indicated in the chart below.

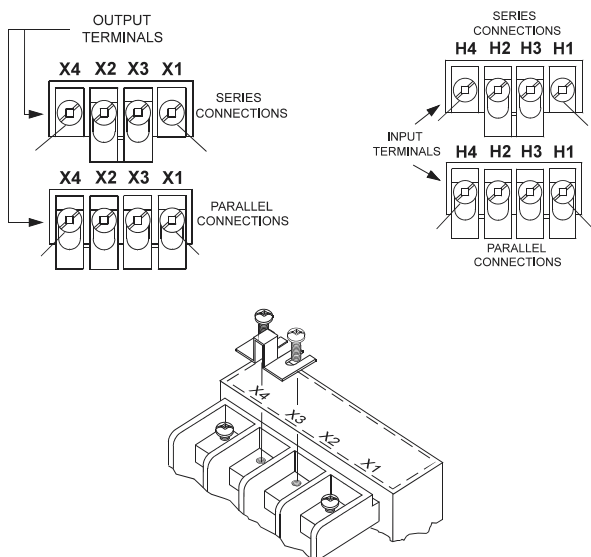
Primary (block mounted)	Secondary (clip mounted)	Maximum Applicable VA Secondary Voltage			Add 'Suffix' to Catalog Part Number (Min. order 10 pieces)
		12 V	24 V	120V & up	
		(none)	Not Installed	-	
(none)	1/4" x 1 1/4" glass	250	500	1000	-1
(none)	13/32" x 1 1/2" midget	250	500	1000	-2
Dual Rejection	13/32" x 1 1/2" midget	250	500	1000	-3
Dual Rejection	1/4" x 1 1/4" glass	250	500	1000	-4
Single Rejection	1/4" x 1 1/4" glass	250	500	1000	-5
Single Rejection	13/32" x 1 1/2" midget	250	500	1000	-6
Dual Rejection	Not included	5000	5000	5000	-7
Dual Midget	Not included	5000	5000	5000	-8
Dual Rejection	Single Midget (block mount)	250	500	3000	-9 (Note 1)

Notes:

(1) Uses one "triple" pole fuse block containing: two rejection clips for the primary and one single midget (13/32" X 1 1/2") fuse clip for the secondary. This will allow for the fusing of most transformers containing multiple secondary voltages.

Voltage Links

- Voltage links are separately packaged for user installation to ensure links are installed on the correct voltage combination. The links are included at **no charge**.



Factory Installed Secondary Fuse Kits

- Secondary Fuse kits consist of all necessary fuse clips, hardware and voltage links.
- Fuse clips are easy to install in the terminal block (see diagram below). Fuses are then easily snapped into place. (Fuses not included)



SECTION 1



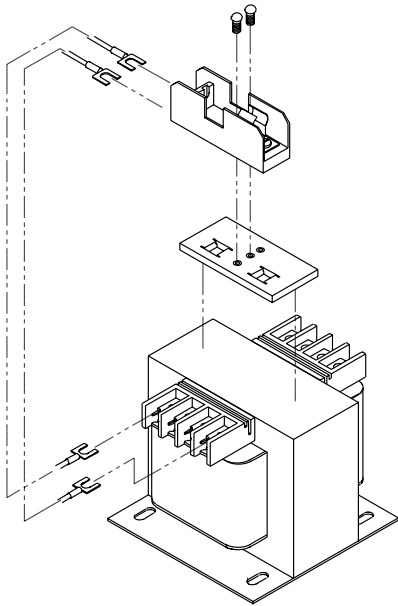


SL Series Fusing Options can't ...

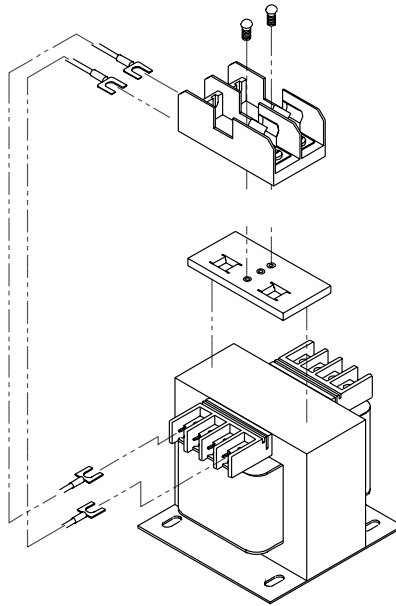
Factory Installed Primary Fuse Kits

Our pre-engineered factory installed primary fuse kits, now mounted directly to the transformer core, includes the fuse block, lead wire harness, mounting plate and hardware.

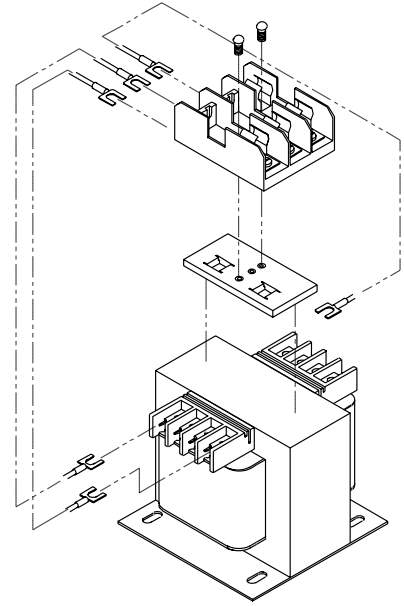
Single Pole Fuse Kit
(for units up to 1000VA)



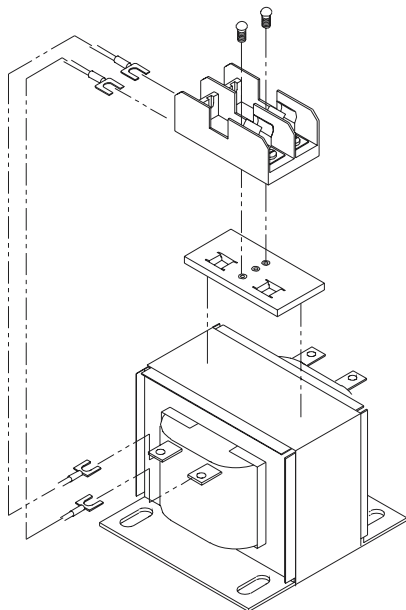
Double Pole Fuse Kit
(for units up to 1000VA)



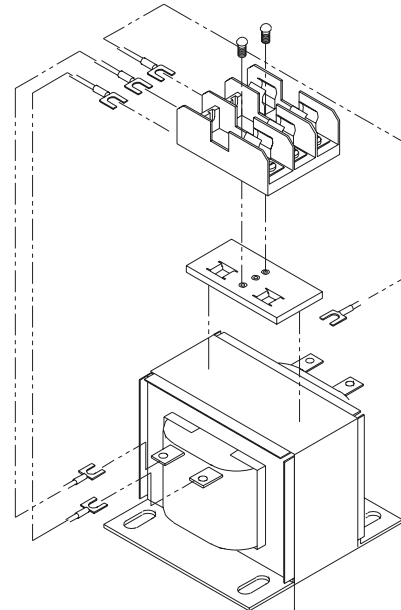
Triple Pole Fuse Kit
(for units up to 1000VA)



Double Pole Fuse Kit
(for Open Style units over 1000VA)



Triple Pole Fuse Kit
(for Open Style units over 1000VA)

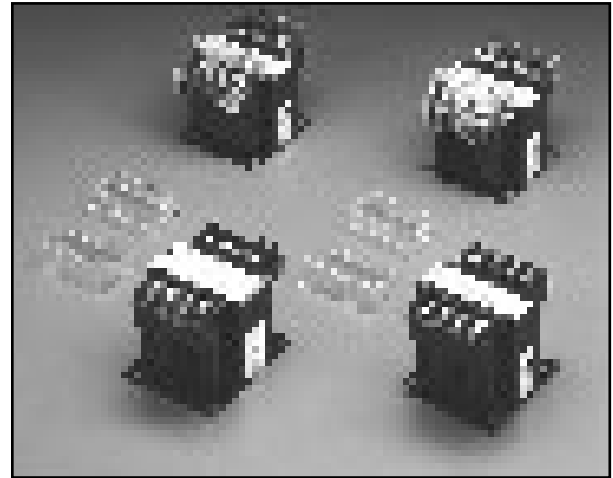


SECTION 1



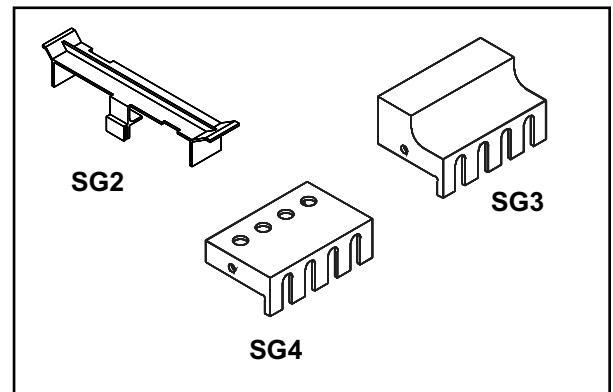
Optional 'Finger Safe' Terminal Covers

- ➔ One piece molded design for easy installation and removal.
- ➔ Molded from strong, yet flexible 'Lexan' polyester plastic, which will not break or chip.
- ➔ Clear, see-through design allows for maximum visibility of both fuse and/or terminal connections.
- ➔ No extra parts like mounting brackets or screws ensure you always have the correct tools for installation or removal.
- ➔ Available in several styles to facilitate fusing or non-fusing options.
- ➔ Retrofittable with all Control Transformers up to 1000 VA (look for the "retrofitable" notation on transformer box labels).

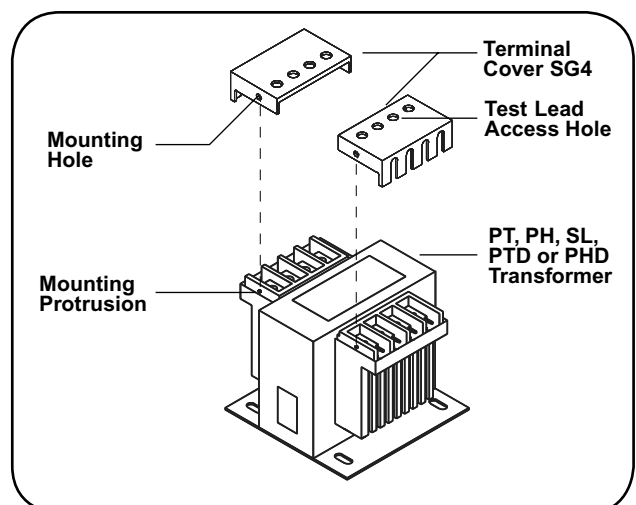
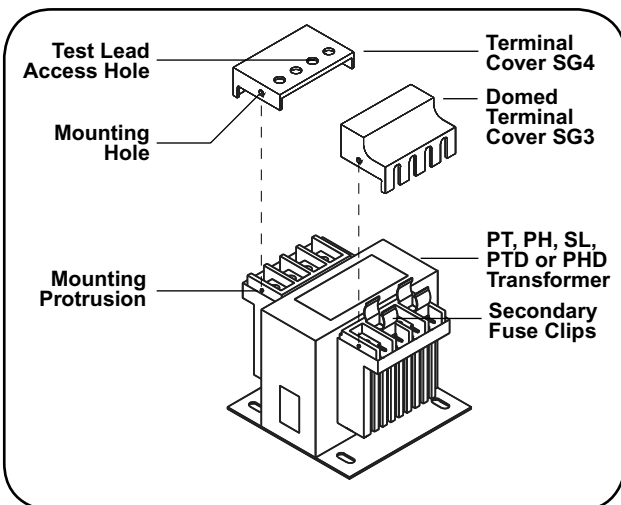


Control Transformers c/w optional Terminal Covers

Finger Safe Terminal Covers	
Packaged Finger Safe Terminal Covers (minimum order 20 pieces required)	P/N
(1) Safety Puller - for primary fuse blocks	SG2
(2) Domed Terminal Cover (for fused secondary)	SG3
(3) Terminal Cover (for unfused primary and/or secondary terminals)	SG4



Optional Terminal Covers



Control Transformer Order Form

Please complete the following Quote Form for Hammond PT Series Control Transformers and fax to:
 Canada: (519) 822-9688 or U.S.: (608) 355-7623 or contact Hammond Customer Service Department directly by
 calling: Canada: 1-888-798-8882 or U.S.: 1-866-705-4684.

SECTION 1

Company Name: _____ Date: _____

City: _____ State/Prov.: _____ Zip/Postal: _____

Contact Name: _____ Phone #: _____

Fax Number: _____ E-Mail Address: _____

ORDER SPECIFICATIONS: (please complete the following)

Customer P.O. # : _____

PT, PH, SL, PTD or PHD Series Control Transformers

Type: PT (50/60 Hz) _____ PH (60 Hz) _____ SL (60 Hz) _____ PTD (50/60 Hz) _____ PHD (60 Hz) _____

Quantity: _____ Catalog Part Number: _____

VA Rating: _____

Primary Voltage(s): _____

Secondary Voltage(s): _____

Fusing Options:

Factory Installed Fuse Kit Suffix (add suffix to catalog P/N) - _____ Quantity _____

Field Installed Fuse Kit P/N _____ Quantity _____

Terminal Cover Options:

Safety Puller for primary fuse blocks (P/N SG2) _____ pcs.

Domed Terminal Cover (for fused secondary) (P/N SG3) _____ pcs.

Terminal Cover (for unfused primary/secondary) (P/N SG4) _____ pcs.

Quote # : _____ Quoted By: _____ Date: _____



SINGLE PHASE ENCLOSED INDOOR TRANSFORMER FEATURES

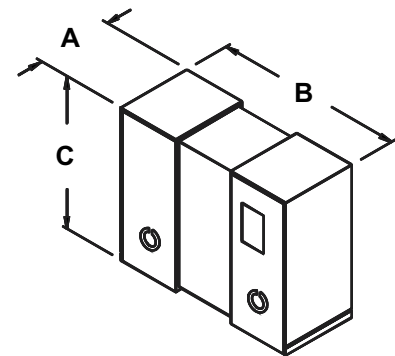
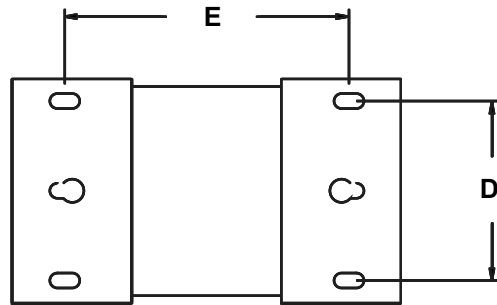
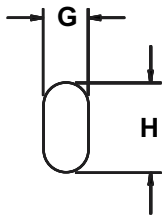
For applications where an indoor, cost effective approach to general purpose loads consider the 'E' series, single phase, indoor enclosed control transformer. These units are specifically designed for the following applications;

- General purpose enclosed control applications used to adjust a supply voltage to match a load requirement
- Supplying machine tool circuits.
- Actuating relays, bells, signal and alarm systems.
- Operating small motors, valves and dampers.
- Industrial lighting and circuit isolation.

**'E' Style Enclosure
50 to 5000VA**



FEATURE	50 to 5000VA	BENEFITS
UL Listed	File: E50394	Assures long life and reliable performance Rugged one-piece assembly with low noise provides optimum performance and reliability. Provides enhanced voltage regulation and excellent thermal characteristics and complies modern winding techniques. Provides a strong mechanical bond and seals the surface from environmental conditions. Meets the heavy industrial trade requirements for enclosed transformers. Ample space for transformer connections. For primary and secondary terminations. Facilitates any installation requirement.
CSA Certified	File: LR3902	
Frequency	60 Hertz	
Insulation System	Up to 350VA; Class A, 55°C temperature rise. 500 to 1000VA; Class B, 80°C temperature rise. 1500 to 5000VA; Class F, 115°C temp. rise.	
Standard Design	Single Phase, all welded core construction made with high quality, high permeability silicon steel laminations. Computer designed coils, accurately wound with optimum mean turns made from high quality copper magnetic wire with insulation film.	
Vacuum Impregnation	All E style control transformer coils are Vacuum Pressure Impregnated and then oven cured.	
Enclosure	Rugged Type 1 Enclosure (E style) - dual end bells.	
End Bells	Large spacious end bells. Separate terminal compartments.	
Mounting	Designed for vertical or horizontal mounting.	



Group 1

Primary Voltage	120
Secondary Voltage	12
60 Hertz	

SCHEMATIC		CONNECTIONS	
	120V	Primary Volts	Supply Lines Connect To
		120	H1, H2
	12V	Sec. Volts	Load Lines Connect To
		12	X1, X2

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE2E	4.17	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG2E	8.33	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH2E	12.50	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI2E	16.67	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ2E	20.83	3.75	6.69	4.88	2.75	5.81	.25 X .50	10
350	EK2E	29.17	3.75	7.07	4.88	2.75	6.19	.25 X .50	13
500	EL2E	41.67	3.75	7.94	4.88	2.75	7.06	.25 X .50	16

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 2

Primary Voltage	120
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
24	X1, X2			

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE2G	2.08	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG2G	4.17	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH2G	6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI2G	8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ2G	10.42	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK2G	14.58	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL2G	20.83	3.75	7.00	4.88	2.75	6.13	.25 X .50	16

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.



Group 3

Primary Voltage	208
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		208	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
24	X1, X2			

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE3G	2.08	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG3G	4.17	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH3G	6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI3G	8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ3G	10.42	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK3G	14.58	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL3G	20.83	3.75	7.00	4.88	2.75	6.13	.25 X .50	16

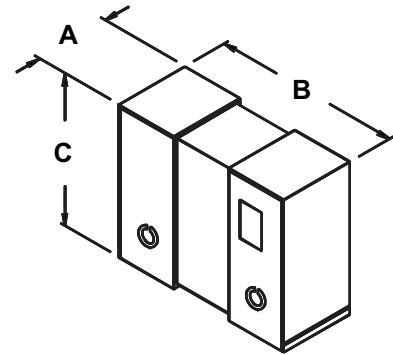
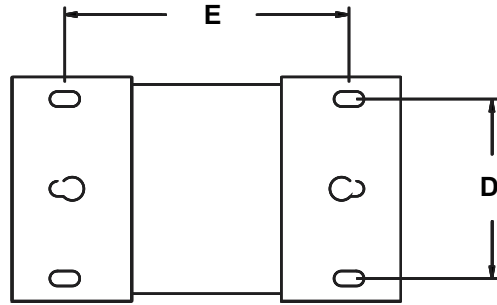
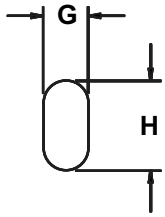
B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





SECTION 1



Group 4

Primary Voltage	240
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS	
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	240	H1, H2	
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	24	X1, X2	

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5G	2.08	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG5G	4.17	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH5G	6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI5G	8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ5G	10.42	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK5G	14.58	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL5G	20.83	3.75	7.00	4.88	2.75	6.13	.25 X .50	16

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 5

Primary Voltage	480
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		480	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		24	X1, X2	

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE7G	2.08	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG7G	4.17	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH7G	6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI7G	8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ7G	10.42	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK7G	14.58	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL7G	20.83	3.75	7.00	4.88	2.75	6.13	.25 X .50	16

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.



Group 6

Primary Voltage	600
Secondary Voltage	24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		24	X1, X2	

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE9G	2.08	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG9G	4.17	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH9G	6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI9G	8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ9G	10.42	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK9G	14.58	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL9G	20.83	3.75	7.00	4.88	2.75	6.13	.25 X .50	16

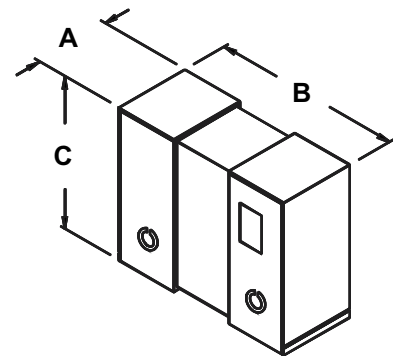
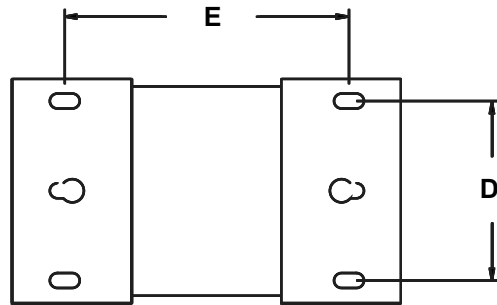
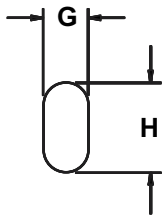
B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





SECTION 1



Group 7

Primary Voltage	208/416
Secondary Voltage	12/24
60 Hertz	

SCHEMATIC		CONNECTIONS	
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	208 416	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	12 24	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5EEA	4.17/2.08	2.50	5.75	3.50	-	4.88	.25 dia.	4
100	EG5EEA	8.33/4.17	2.50	6.63	3.50	-	5.75	.25 dia.	6
150	EH5EEA	12.5/6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI5EEA	16.7/8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ5EEA	20.8/10.4	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK5EEA	29.2/14.6	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL5EEA	41.7/20.8	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM5EEA	62.5/31.3	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN5EEA	83.3/41.7	5.00	7.63	6.38	4.00	6.06	.31 X .63	31

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 8

Primary Voltage	600
Secondary Voltage	12/24
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
12 24	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3		

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE9EA	4.17/2.08	2.50	5.63	3.50	-	4.75	.25 dia.	4
100	EG9EA	8.33/4.17	2.50	6.50	3.50	-	5.63	.25 dia.	6
150	EH9EA	12.5/6.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI9EA	16.7/8.33	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ9EA	20.8/10.4	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK9EA	29.2/14.6	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL9EA	41.7/20.8	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM9EA	62.5/31.3	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN9EA	83.3/41.7	5.00	7.63	6.38	4.00	6.06	.31 X .63	31

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.



Group 9

Primary Voltage	120
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		120	H1, H2	
Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines		
120	X1, X2			

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE2J	0.42	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG2J	0.83	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH2J	1.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI2J	1.67	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ2J	2.08	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK2J	2.92	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL2J	4.17	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM2J	6.25	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN2J	8.33	5.00	7.63	6.38	4.00	6.06	.31 X .63	30
1500	EP2J	12.50	5.00	8.63	6.38	4.00	7.06	.31 X .63	38
2000	EQ2J	16.67	6.25	9.13	8.13	5.00	7.50	.31 X .63	49
3000	ES2J	25.00	6.25	10.63	8.13	5.00	9.00	.31 X .63	69

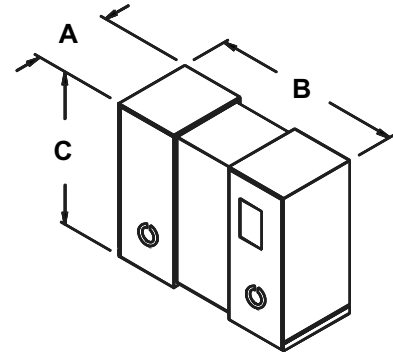
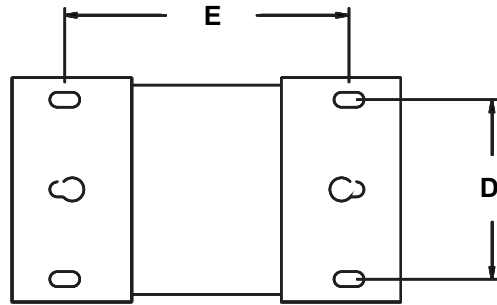
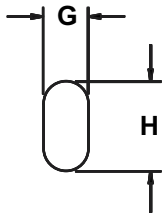
B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





SECTION 1



Group 10

Primary Voltage	208
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	208	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	120	X1, X2		

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE3J	0.42	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG3J	0.83	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH3J	1.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI3J	1.67	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ3J	2.08	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK3J	2.92	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL3J	4.17	3.75	7.00	4.88	2.75	6.13	.25 X .50	16

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 11

Primary Voltage	240
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	240	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	120	X1, X2		

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5J	0.42	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG5J	0.83	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH5J	1.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI5J	1.67	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ5J	2.08	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK5J	2.92	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL5J	4.17	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM5J	6.25	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN5J	8.33	5.00	7.63	6.38	4.00	6.06	.31 X .63	30

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.



Group 12

Primary Voltage	480
Secondary Voltage	120
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	480	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	120	X1, X2		

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE7J	0.42	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG7J	0.83	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH7J	1.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI7J	1.67	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ7J	2.08	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK7J	2.92	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL7J	4.17	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM7J	6.25	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN7J	8.33	5.00	7.63	6.38	4.00	6.06	.31 X .63	30

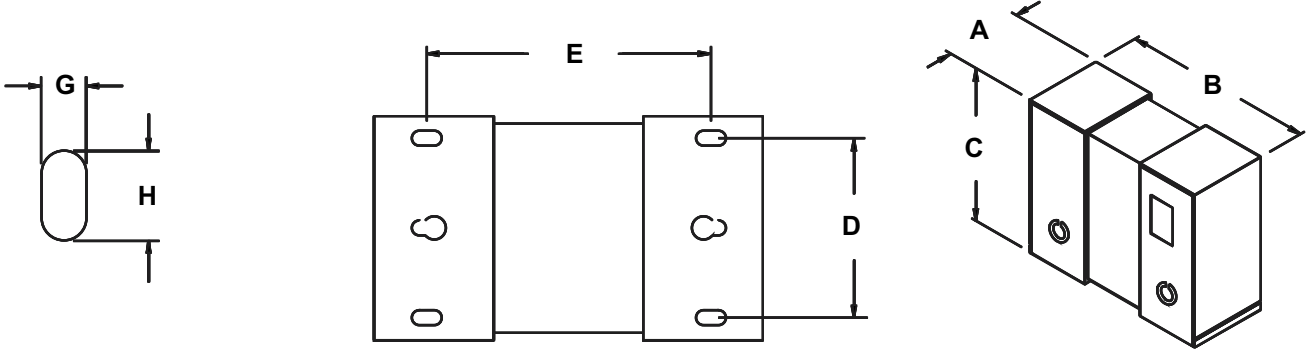
B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.



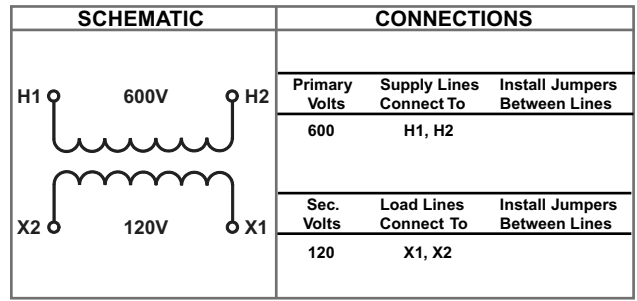


SECTION 1



Group 13

Primary Voltage	600
Secondary Voltage	120
60 Hertz	



VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE9J	0.42	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG9J	0.83	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH9J	1.25	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI9J	1.67	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ9J	2.08	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK9J	2.92	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL9J	4.17	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM9J	6.25	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN9J	8.33	5.00	7.63	6.38	4.00	6.06	.31 X .63	30

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 14

Primary Voltage	600
Secondary Voltage	240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		240	X1, X2	

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE9M	0.21	2.50	5.63	3.50	-	4.75	.25 dia.	3
100	EG9M	0.42	2.50	6.50	3.50	-	5.63	.25 dia.	5
150	EH9M	0.63	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI9M	0.83	3.13	6.13	4.13	2.25	5.25	.25 X .50	8
250	EJ9M	1.04	3.75	5.75	4.88	2.75	4.88	.25 X .50	10
350	EK9M	1.46	3.75	6.13	4.88	2.75	5.25	.25 X .50	13
500	EL9M	2.08	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM9M	3.13	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN9M	4.17	5.00	7.63	6.38	4.00	6.06	.31 X .63	30

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.



Group 15

Primary Voltage	277
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		277	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5AP	.42/.21	2.50	5.75	3.50	-	4.88	.25 dia.	4
100	EG5AP	.83/.42	2.50	6.63	3.50	-	5.75	.25 dia.	6
150	EH5AP	1.25/.63	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI5AP	1.67/.83	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ5AP	2.08/1.04	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK5AP	2.92/1.46	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL5AP	4.17/2.08	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM5AP	6.25/3.13	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN5AP	8.33/4.17	5.00	7.63	6.38	4.00	6.06	.31 X .63	30

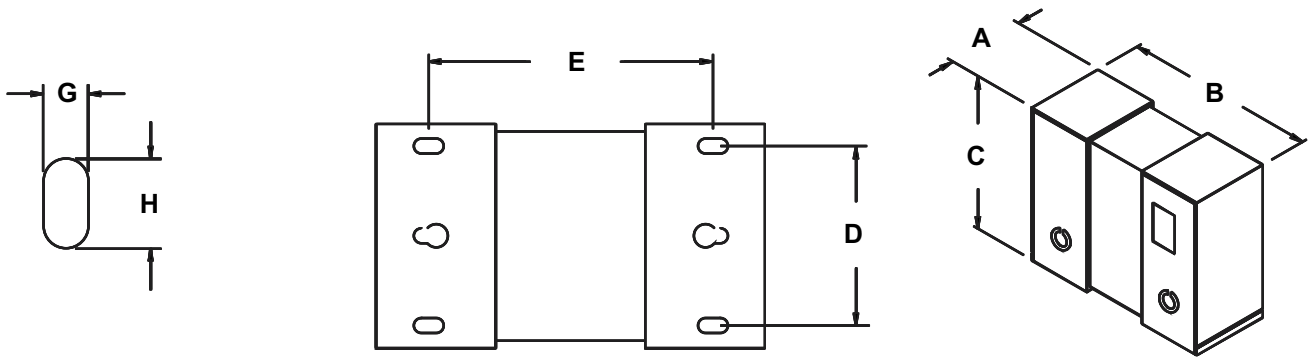
B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





SECTION 1



Group 16

Primary Voltage	347
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines	
	347	H1, H2		
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines	
	120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3	

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5BP	.42/.21	2.50	5.75	3.50	-	4.88	.25 dia.	4
100	EG5BP	.83/.42	2.50	6.63	3.50	-	5.75	.25 dia.	6
150	EH5BP	1.25/.63	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI5BP	1.67/.83	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ5BP	2.08/1.04	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK5BP	2.92/1.46	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL5BP	4.17/2.08	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM5BP	6.25/3.13	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN5BP	8.33/4.17	5.00	7.63	6.38	4.00	6.06	.31 X .63	30
1500	EP5BP	12.5/6.25	5.00	8.63	6.38	4.00	7.06	.31 X .63	38
2000	EQ5BP	16.7/8.33	6.25	9.13	8.13	5.00	7.50	.31 X .63	49
3000	ES5BP	25.0/12.5	6.25	10.63	8.13	5.00	9.00	.31 X .63	69
5000	EU5BP	41.7/20.8	7.50	10.88	9.56	6.00	9.25	.38 X .75	103

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 17

Primary Voltage	380
Secondary Voltage	120/240
50/60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		380	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5CP	.42/.21	2.50	6.00	3.50	-	5.13	.25 dia.	4
100	EG5CP	.83/.42	2.50	6.75	3.50	2.25	5.88	.25 X .50	6
150	EH5CP	1.25/.63	3.13	5.88	4.13	2.25	5.00	.25 X .50	8
200	EI5CP	1.67/.83	3.13	6.50	4.13	2.74	5.63	.25 X .50	10
250	EJ5CP	2.08/1.04	3.75	5.13	4.88	2.75	5.25	.25 X .50	12
350	EK5CP	2.92/1.46	3.75	6.50	4.88	2.75	5.63	.25 X .50	15
500	EL5CP	4.17/2.08	3.75	6.63	6.38	4.00	5.06	.31 X .63	22
750	EM5CP	6.25/3.13	5.00	7.13	6.38	4.00	5.56	.31 X .63	31
1000	EN5CP	8.33/4.17	5.00	8.13	6.38	4.00	6.56	.31 X .63	34
1500	EP5CP	12.5/6.25	5.00	9.13	6.38	4.00	7.56	.31 X .63	40
2000	EQ5CP	16.7/8.33	6.25	9.88	8.13	5.00	8.25	.31 X .63	61
3000	ES5CP	25.0/12.5	7.50	9.13	9.56	6.00	7.50	.38 X .75	77
5000	EU5CP	41.7/20.8	7.50	11.63	9.56	6.00	10.00	.38 X .75	114

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.

Group 18

Primary Voltage	208/416
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		208 416	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE5EP	.42/.21	2.50	5.75	3.50	-	4.88	.25 dia.	4
100	EG5EP	.83/.42	2.50	6.63	3.50	-	5.75	.25 dia.	6
150	EH5EP	1.25/.63	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI5EP	1.67/.83	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ5EP	2.08/1.04	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK5EP	2.92/1.46	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL5EP	4.17/2.08	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM5EP	6.25/3.13	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN5EP	8.33/4.17	5.00	7.63	6.38	4.00	6.06	.31 X .63	30
1500	EP5EP	12.5/6.25	5.00	8.63	6.38	4.00	7.06	.31 X .63	38
2000	EQ5EP	16.7/8.33	6.25	9.13	8.13	5.00	7.50	.31 X .63	49
3000	ES5EP	25.0/12.5	6.25	10.63	8.13	5.00	9.00	.31 X .63	69
5000	EU5EP	41.7/20.8	7.50	10.88	9.56	6.00	9.25	.38 X .75	103

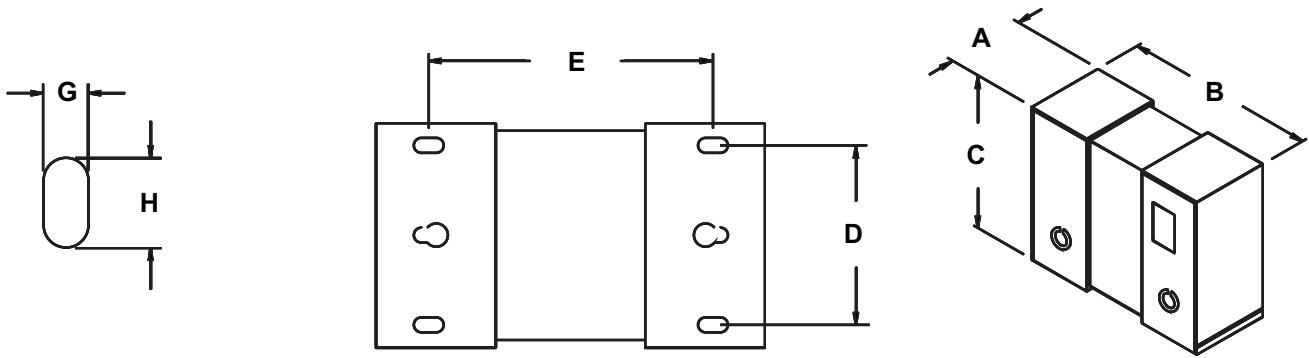
B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





SECTION 1



Group 19

Primary Voltage	240/480
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS	
	Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
	240 480	H1, H4 H1, H4	H1-H3, H2-H4 H2-H3
	Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
	120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE6P	.42/.21	2.50	5.75	3.50	-	4.88	.25 dia.	4
100	EG6P	.83/.42	2.50	6.63	3.50	-	5.75	.25 dia.	6
150	EH6P	1.25/.63	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI6P	1.67/.83	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ6P	2.08/1.04	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK6P	2.92/1.46	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL6P	4.17/2.08	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM6P	6.25/3.13	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN6P	8.33/4.17	5.00	7.63	6.38	4.00	6.06	.31 X .63	30
1500	EP6P	12.5/6.25	5.00	8.63	6.38	4.00	7.06	.31 X .63	38
2000	EQ6P	16.7/8.33	6.25	9.13	8.13	5.00	7.50	.31 X .63	49
3000	ES6P	25.0/12.5	6.25	10.63	8.13	5.00	9.00	.31 X .63	69
5000	EU6P	41.7/20.8	7.50	10.88	9.56	6.00	9.25	.38 X .75	103.00

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.





Group 20

Primary Voltage	600
Secondary Voltage	120/240
60 Hertz	

SCHEMATIC		CONNECTIONS		
		Primary Volts	Supply Lines Connect To	Install Jumpers Between Lines
		600	H1, H2	
		Sec. Volts	Load Lines Connect To	Install Jumpers Between Lines
		120 240	X1, X4 X1, X4	X1-X3, X2-X4 X2-X3

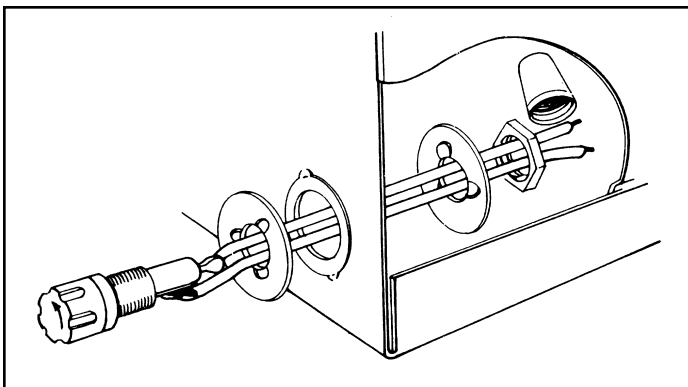
VA Rating	Catalog Number	Output Amps	Overall Dimensions			Mounting Centers		Mtg. Slot "G X H"	Shipping Wt/Lbs
			"A"	"B"	"C"	"D"	"E"		
50	EE9P	.42/1.21	2.50	5.75	3.50	-	4.88	.25 dia.	4
100	EG9P	.83/1.42	2.50	6.63	3.50	-	5.75	.25 dia.	6
150	EH9P	1.25/1.63	3.13	5.63	4.13	2.25	4.75	.25 X .50	7
200	EI9P	1.67/1.83	3.13	6.13	4.13	2.25	5.25	.25 X .50	9
250	EJ9P	2.08/1.04	3.75	5.75	4.88	2.75	4.88	.25 X .50	11
350	EK9P	2.92/1.46	3.75	6.13	4.88	2.75	5.25	.25 X .50	14
500	EL9P	4.17/2.08	3.75	7.00	4.88	2.75	6.13	.25 X .50	16
750	EM9P	6.25/3.13	5.00	6.88	6.38	4.00	5.31	.31 X .63	26
1000	EN9P	8.33/4.17	5.00	7.63	6.38	4.00	6.06	.31 X .63	30
1500	EP9P	12.5/6.25	5.00	8.63	6.38	4.00	7.06	.31 X .63	38
2000	EQ9P	16.7/8.33	6.25	9.13	8.13	5.00	7.50	.31 X .63	49
3000	ES9P	25.0/12.5	6.25	10.63	8.13	5.00	9.00	.31 X .63	69
5000	EU9P	41.7/20.8	7.50	10.88	9.56	6.00	9.25	.38 X .75	103

B and E dimensions are subject to a 0.13" tolerance.

All dimensions in inches unless otherwise specified.

Type E Fuse Kits

- Rated at 250volts and 15 amps maximum.
- Fuse holder mounts in standard 1/2" knockouts.
- Kit comes complete with fuseholder, wire connector, self centering washers, one glass cartridge fuse 1/4" X 1 1/4", and Instruction Bulletin.
- **Note:** Fuse kits are not available factory installed. They are field installed only.



Kit Catalog No.	Fuse Amps	Kit Catalog No.	Fuse Amps
EC0X5	0.5 amps	EC2X5	2.50 amps
EC0X75	0.75 amps	EC3	3.0 amps
EC1	1.0 amps	EC5	5.0 amps
EC1X25	1.25 amps	EC6	6.0 amps
EC1X5	1.50 amps	EC10	10.0 amps
EC1X6	1.60 amps	EC12	12.0 amps
EC2	2.0 amps	EC15	15.0 amps



