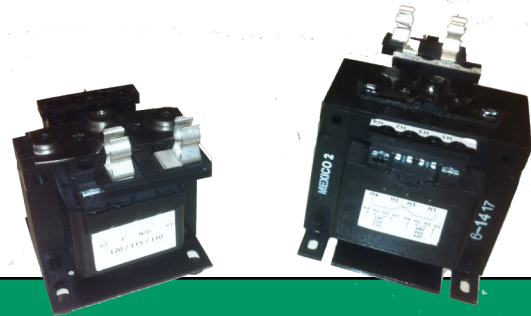


Industrial Control Transformers

Jefferson Electric offers a full line of transformers for Industrial Control applications. These transformers are typically used in control panels, conveyor systems, machine tool equipment, pump systems, and commercial air conditioning applications.

General Specifications

- General purpose
- 50 VA to 5000 VA
- Cores of high-grade silicon steel
- 50/60 Hz operation
- Machine wound copper coils
- Phil-Slot-Hex head terminal screws
- Temperature Rise of 55°C for 50VA to 100VA
- Temperature Rise of 80°C for 150VA to 750VA
- Temperature Rise of 115°C for 1000VA to 5000VA
- Permanently affixed wiring diagram
- UL and cUL Listed
- Secondary fuse clips standard on most units
- Optional primary fuse clips available
- Finger safe terminals on <=2kVA units
- Models with CE Marking are available
- Units can be ordered with primary fuse blocks and covers factory installed



Voltage combinations available

Group	Primary Voltages	Secondary Voltages	Selected items Stocked
AA	220/230/240 x 440/460/480	110/115/120	Yes
BB	240 x 480	24	Yes
CC	120 x 240	24	Yes
EE	550/575/600	110/115/120	
FF	208 x 277	120	Yes
GG	208 x 230 x 460	115	Yes
HH	230 x 460 x 575	95 x 115	
II	380 x 400 x 415	110 x 220	
JJ	200/208 x 220/230/240 x 440/460/480	23/24/25, 110/115/120	Yes
KK	240 x 480	120 x 240	
LL	208/220/230/240 x 380/400/416 x 440/460/480 x 500/550/575/600	110/120/125/130, 100/110/115/120, 85/91/95/99	
MM	220/230/240 x 440/460/480	110/115/120 x 220/230/240	
NN	240 x 347 x 380	120 x 240	

Most models include fuse clip on secondary terminals (suffix -300). Units with suffix of -301 do not support fuse clips on secondary terminals. All units thru 2000VA support the optional primary fuse block.

Group AA

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
220/230/240 x 440/460/480 - 110/115/120									
50	631-1101-300	30	3.64	3.00	3.46	2.00	2.50	Group AA	2.60
75	631-1201-300	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1301-300	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1401-300	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1501-300	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1601-300	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1701-300	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1801-300	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1901-300	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2001-300	31	6.77	5.25	5.66	5.38	4.38		28.10
1000	631-2101-300	31	6.02	6.37	6.57	4.00	6.13		28.10
1500	631-2201-300	31	7.03	6.37	6.57	4.50	6.13		30.00
2000	631-2301-300	31	7.79	6.37	6.57	5.13	6.13		38.00
3000	631-2401-301	31	7.01	9.00	8.74	4.25	6.50		53.00
5000	631-2601-301	31	8.00	9.00	8.74	7.25	7.50		89.00

Group BB

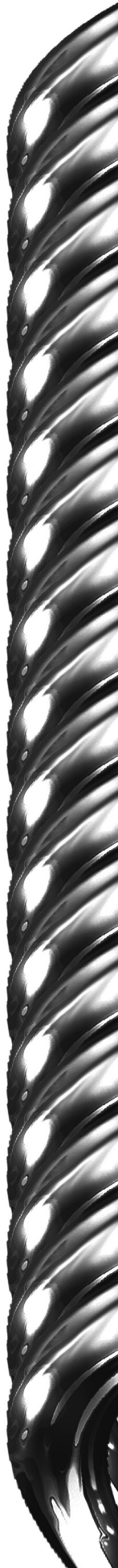
VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
240x480 - 24									
50	631-1102-300	30	3.64	3.00	3.46	2.00	2.50	Group BB	2.60
75	631-1202-300	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1302-300	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1402-300	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1502-300	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1602-300	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1702-300	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1802-300	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1902-300	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2002-301	31	6.77	5.25	5.66	5.38	4.38		28.10

Group CC

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
120 x 240 - 24									
50	631-1103-300	30	3.64	3.00	3.46	2.00	2.50	Group CC	2.60
75	631-1203-300	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1303-300	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1403-300	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1503-300	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1603-300	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1703-300	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1803-300	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1903-300	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2003-301	31	6.77	5.25	5.66	5.38	4.38		28.10

Group EE

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
550/575/600 - 110/115/120									
50	631-1104-300	30	3.64	3.00	3.46	2.00	2.50	Group EE	2.60
75	631-1204-300	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1304-300	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1404-300	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1504-300	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1604-300	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1704-300	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1804-300	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1904-300	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2004-300	31	6.77	5.25	5.66	5.38	4.38		28.10



Group FF

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
208 x 277 - 120									
50	631-1105-300	30	3.64	3.00	3.46	2.00	2.50	Group FF	2.60
75	631-1205-300	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1305-300	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1405-300	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1505-300	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1605-300	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1705-300	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1805-300	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1905-300	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2005-300	31	6.77	5.25	5.66	5.38	4.38		28.10

Group GG

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
208 x 230 x 460 - 115									
50	631-1106-300	30	3.64	3.00	3.46	2.00	2.50	Group GG	2.60
75	631-1206-300	30	4.10	3.31	3.46	2.38	2.81		4.20
100	631-1306-300	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1406-300	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1506-300	30	4.87	4.50	4.47	2.88	3.75		10.00
250	631-1606-300	30	4.87	4.50	4.47	3.25	3.75		11.30
300	631-1706-300	30	5.60	4.50	4.47	3.75	3.75		13.60
350	631-1806-300	30	5.60	4.50	4.47	4.75	3.75		15.60
500	631-1906-300	31	6.53	5.25	5.66	4.38	4.38		21.50
750	631-2006-300	31	7.25	5.25	5.66	5.88	4.38		30.00
1000	631-2106-300	31	6.02	6.37	6.57	4.00	6.13		28.10
1500	631-2206-300	31	6.02	6.37	6.57	4.00	6.13		28.10
2000	631-2306-300	31	7.79	6.37	6.57	5.13	6.13		38.00
3000	631-2406-301	31	7.01	9.00	8.74	4.25	6.50		53.00
5000	631-2606-301	31	8.00	9.00	8.74	7.25	7.50		89.00

Group HH

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
230 x 460 x 575 - 95 x 115									
1000	631-2107-301	31	6.02	6.37	6.57	4.00	6.13	Group HH	28.10
1500	631-2207-301	31	7.79	6.37	6.57	5.13	6.13		38.00
2000	631-2307-301	31	7.01	9.00	8.74	4.25	6.50		53.00
3000	631-2407-301	31	8.00	9.00	8.74	7.25	7.50		89.00
5000	631-2607-301	31	9.00	9.00	8.74	8.25	7.50		100.00

Group II

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
380 x 400 x 415 - 110 x 220									
50	631-1108-301	30	3.64	3.00	3.46	2.00	2.50	Group II	2.60
75	631-1208-301	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1308-301	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1408-301	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1508-301	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1608-301	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1708-301	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1808-301	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1908-301	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2008-301	31	6.77	5.25	5.66	5.38	4.38		28.10

Group JJ

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
200/208 x 220/230/240 x 440/460/480 - 23/24/25,110/115/120									
50	631-1109-301	30	4.60	3.00	3.46	2.88	2.50	Group JJ	4.20
75	631-1209-301	30	4.54	3.75	3.94	2.88	3.13		6.70
100	631-1309-301	30	4.54	3.75	3.94	2.88	3.13		6.70
150	631-1409-301	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1509-301	30	4.87	4.50	4.47	2.88	3.75		10.00
250	631-1609-301	30	5.60	4.50	4.47	3.75	3.75		13.60
300	631-1709-301	31	5.53	5.25	5.66	3.88	4.38		19.20
350	631-1809-301	31	5.53	5.25	5.66	3.88	4.38		19.20
500	631-1909-301	31	6.53	5.25	5.66	4.38	4.38		21.50

Group KK

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
240 x 480 - 120 x 240									
50	631-1110-301	30	3.64	3.00	3.46	2.00	2.50	Group KK	2.60
75	631-1210-301	30	4.10	3.00	3.46	2.50	2.50		3.50
100	631-1310-301	30	4.10	3.31	3.46	2.38	2.81		4.20
150	631-1410-301	30	4.54	3.75	3.94	2.88	3.13		6.70
200	631-1510-301	30	4.37	4.50	4.46	2.50	3.75		8.50
250	631-1610-301	30	4.87	4.50	4.47	2.88	3.75		10.00
300	631-1710-301	30	4.87	4.50	4.47	3.25	3.75		11.30
350	631-1810-301	30	5.60	4.50	4.47	3.75	3.75		13.60
500	631-1910-301	31	5.53	5.25	5.66	3.88	4.38		19.20
750	631-2010-301	31	6.77	5.25	5.66	5.38	4.38		28.10
1000	631-2110-301	31	5.78	6.75	5.57	4.00	6.13		28.10
1500	631-2210-301	31	6.78	6.75	6.57	4.50	6.13		30.0
3000	631-2410-301	31	6.01	9.00	8.75	4.25	6.25		53.0

Group LL

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
200 to 600 - 85 to 130									
50	631-1111-301	30	4.10	3.31	3.46	2.38	2.81	Group LL	4.20
100	631-1311-301	30	4.54	3.75	3.94	2.88	3.13		6.70
150	631-1411-301	30	4.87	4.50	4.47	2.88	3.75		10.00
250	631-1611-301	30	5.53	5.25	5.66	3.88	4.38		19.20
350	631-1811-301	31	6.53	5.25	5.66	4.38	4.38		21.50
500	631-1911-301	31	7.25	5.25	5.66	5.88	4.38		30.00
750	631-2011-301	31	6.02	6.37	6.57	4.00	6.13		28.10

Group MM

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
220/230/240 x 440/460/480 - 110/115/120x220/230/240									
1000	631-2112-301	31	6.77	5.25	5.66	5.38	4.38	Group MM	28.10
1500	631-2212-301	31	6.02	6.37	6.57	4.00	6.13		28.10
2000	631-2312-301	31	7.79	6.37	6.57	5.13	6.13		38.00
3000	631-2412-301	31	7.01	9.00	8.74	4.25	6.50		53.00
5000	631-2612-301	31	8.00	9.00	8.74	7.25	7.50		89.00

Group NN

VA	Catalog Number	Fig.	Dim. (A)	Dim. (B)	Dim. (C)	Dim. (D)	Dim (E)	Wiring Diagram	Est. Ship Wgt. (lbs)
240 x 347 x 380 - 120 x 240									
1000	631-2113-301	31	6.02	6.37	6.57	4.00	6.13	Group NN	28.10
1500	631-2213-301	31	6.02	6.37	6.57	4.00	6.13		28.10
2000	631-2313-301	31	7.79	6.37	6.57	5.13	6.13		38.00
3000	631-2413-301	31	7.01	9.00	8.74	4.25	6.50		53.00
5000	631-2613-301	31	8.00	9.00	8.74	7.25	7.50		89.00

Accessories

ITEM	Catalog Number	Fig.	Est. Ship Wgt. (lbs)	Comments
Primary Fuse kit	631-0000-301	16	0.35	Fuse kit for one transformer
Primary Fuse covers	631-0000-302	17	0.10	Cover for one fuse kit
Finger Safe Terminal covers	631-0000-303	32	0.10	Covers for one transformer for units larger than 350VA
Secondary Fuse cover	631-0000-307		0.10	Cover for one transformer 350VA and smaller

Figure 16

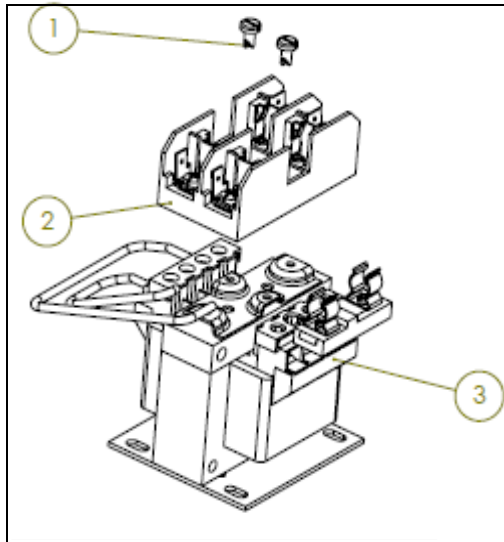


Figure 17

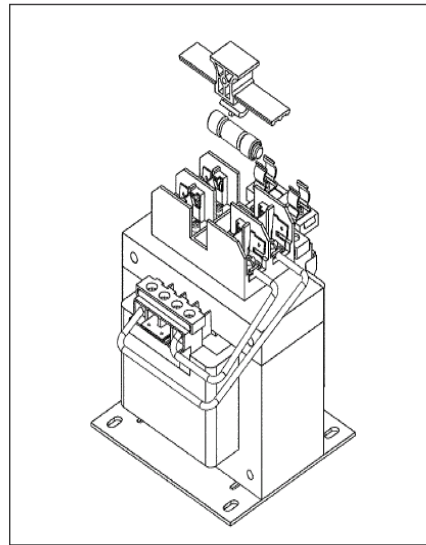


Figure 30

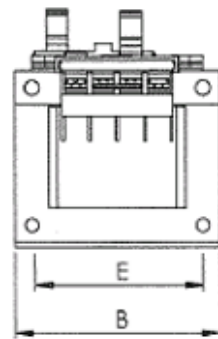
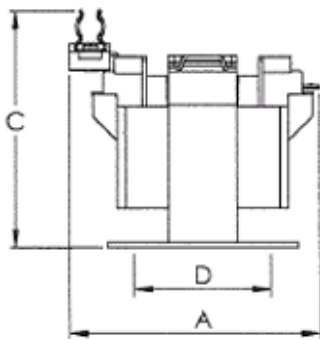


Figure 32

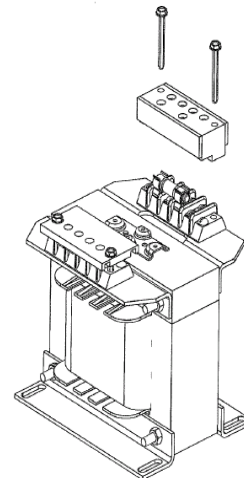
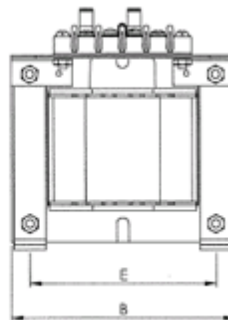
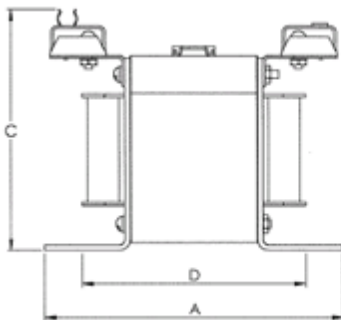
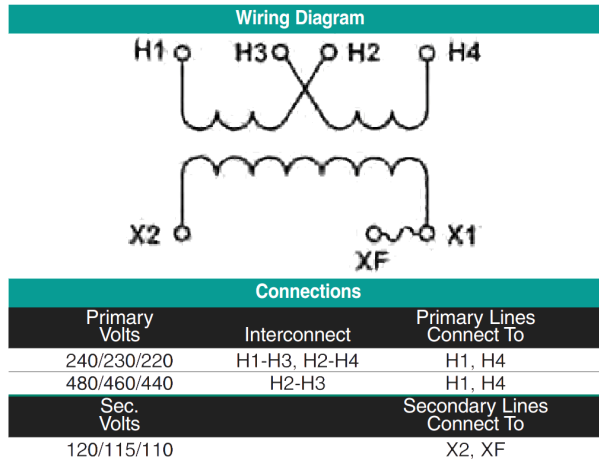


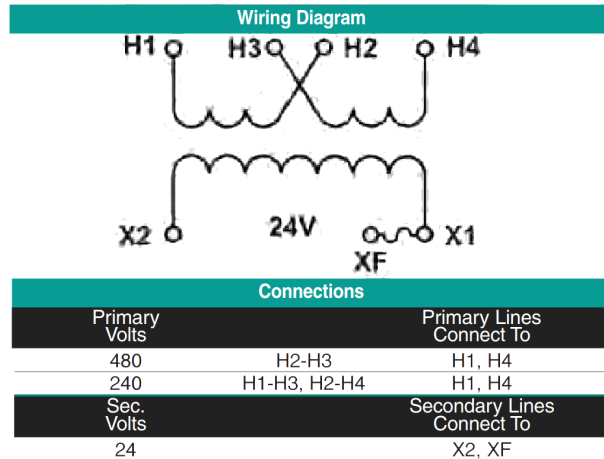
Figure 31



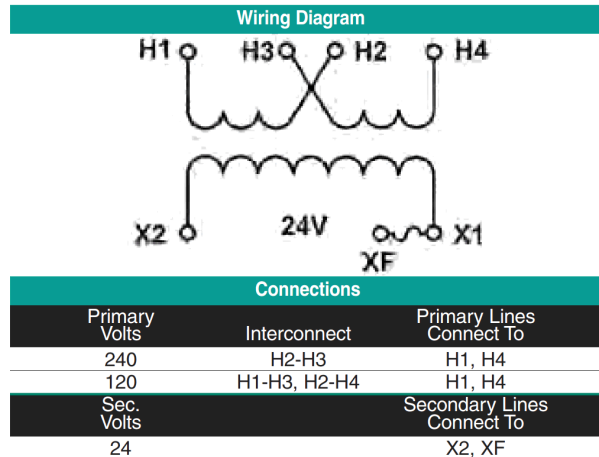
Group AA Wiring Diagram & Connections



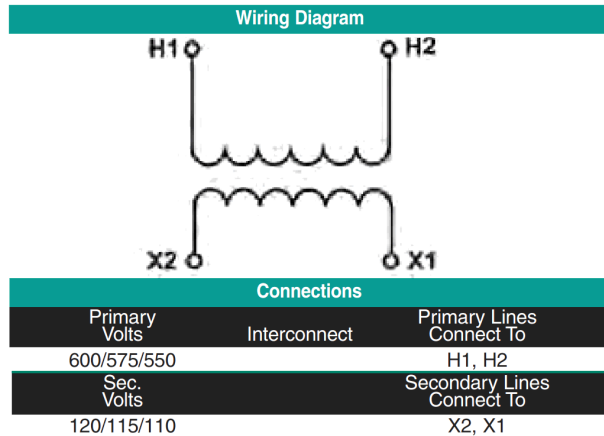
Group BB Wiring Diagram & Connections



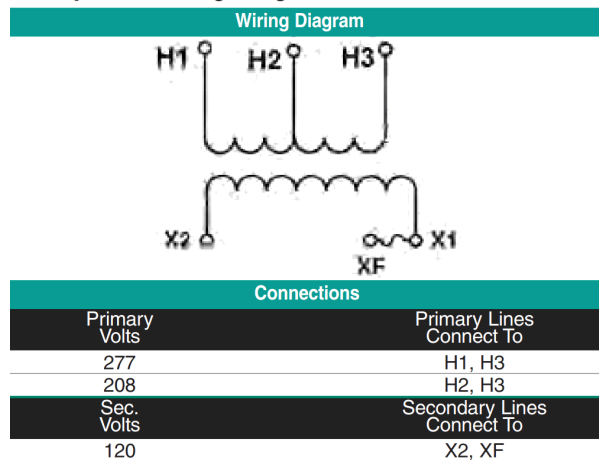
Group CC Wiring Diagram & Connections



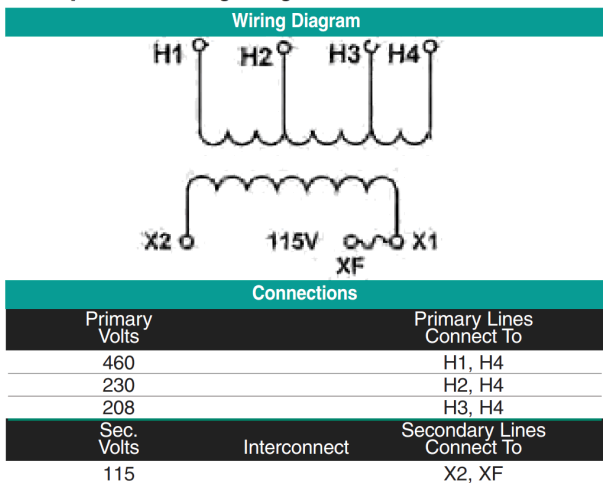
Group EE Wiring Diagram & Connections



Group FF Wiring Diagram & Connections

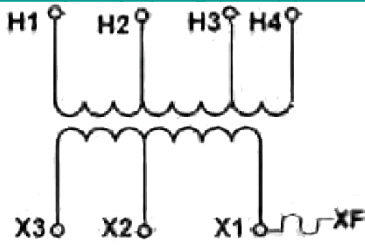


Group GG Wiring Diagram & Connections



Group HH Wiring Diagram & Connections

Wiring Diagram

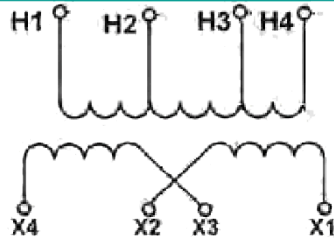


Connections

Primary Volts	Primary Lines Connect To
575	H1, H4
460	H2, H4
230	H3, H4
Sec. Volts	Secondary Lines Connect To
115	X1, X3
95	X2, X3

Group II Wiring Diagram & Connections

Wiring Diagram

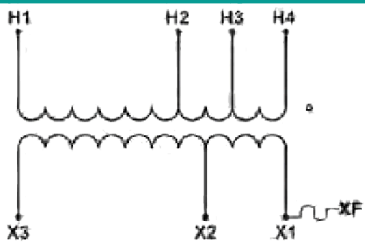


Connections

Primary Volts	Primary Lines Connect To
415	H1, H4
400	H2, H4
380	H3, H4
Sec. Volts	Secondary Lines Connect To
110	X1-X3, X2-X4
220	X2-X3

Group JJ Wiring Diagram & Connections

Wiring Diagram

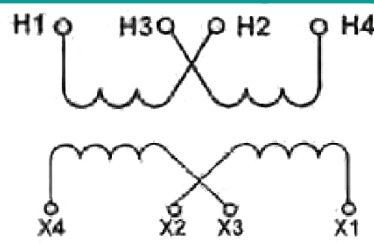


Connections

Primary Volts	Primary Lines Connect To
480/460/440 V	H1, H4
240/230/220 V	H2, H4
208/200 V	H3, H4
Sec. Volts	Secondary Lines Connect To
120/115/110 V	X1, X3
25/24/23 V	X2, X3

Group KK Wiring Diagram & Connections

Wiring Diagram



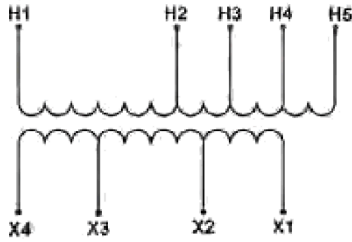
Connections

Primary Volts	Primary Lines Connect To
480 V	H2-H3
240 V	H1-H3, H2-H4
Sec. Volts	Secondary Lines Connect To
120 V	X1-X3, X2-X4
240 V	X2-X3

Note: For Groups JJ and LL read from left to right to match primary to secondary voltages. For example, on Group JJ the 200V primary can have a 115V or 24V secondary.

Group LL Wiring Diagram & Connections

Wiring Diagram

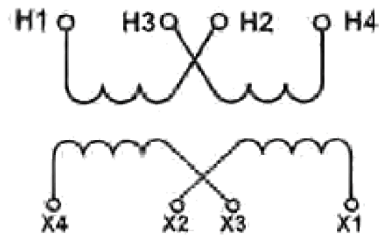


Connections

Primary Volts	Primary Lines Connect To
240/230/220/208 V	H2, H1
416/400/380 V	H3, H1
480/460/440 V	H4, H1
600/575/550/500 V	H5, H1
Sec. Volts	Secondary Lines Connect To
130/125/120/110 V	X4, X1
120/115/110/100 V	X3, X1
99/95/91/85 V	X2, X1

Group MM Wiring Diagram & Connections

Wiring Diagram

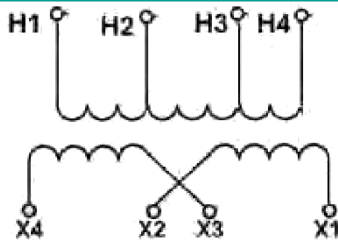


Connections

Primary Volts	Primary Lines Connect To
480/460/440 V	H2-H3
240/230/220 V	H1-H3, H2-H4
Sec. Volts	Secondary Lines Connect To
120/115/110 V	X1-X3, X2-X4
240/230/220 V	X2-X3

Group NN Wiring Diagram & Connections

Wiring Diagram



Connections

Primary Volts	Primary Lines Connect To
380 V	H1, H4
347 V	H2, H4
240 V	H3, H4
Sec. Volts	Secondary Lines Connect To
120 V	X1-X3, X2-X4
240 V	X2-X3

Note: For Groups JJ and LL read from left to right to match primary to secondary voltages. For example, on Group JJ the 200V primary can have a 115V or 24V secondary.