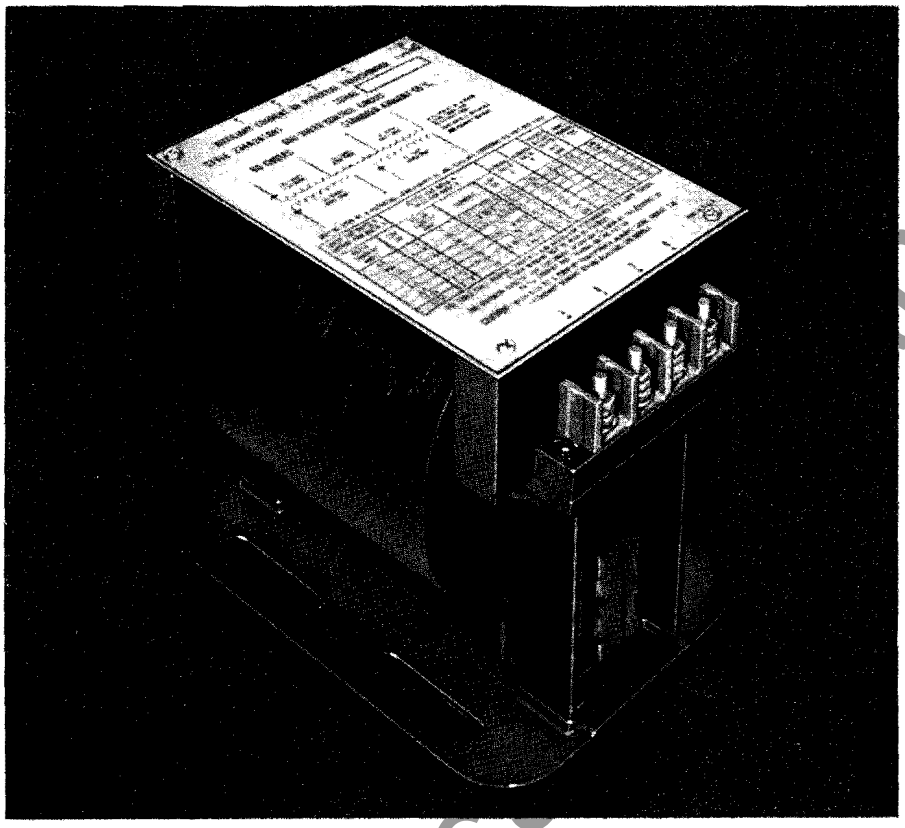
Westinghouse

Auxiliary Current or Potential Transformers

Indoor, 60 Cycles
600 Volts Control Circuit Voltage
2500 Volts Test Voltage



Application

These transformers change the overall ratio of main current transformers. They are connected in series with the secondary of the main current transformer when currents of various magnitudes or phase relationships must be matched. Special ratios in addition to those listed may be obtained by connecting the windings as auto transformers.

The transformer may be used as a potential transformer at voltages not exceeding 0.6 volt per turn. When used as a potential transformer the burden impedance must be at least 100 times the transformer impedance in order to keep the ratio error within 1%:

$$\text{Transformer Impedance} = \text{Secondary Resistance} + \text{Primary Resistance} \times \left(\frac{\text{Secondary Turns}}{\text{Primary Turns}}\right)^2$$

Example: Transformer Style Number 234A240G03

Secondary: Two 80-turn sections in series = 160 turns, 0.133 ohm.

Primary: 100 turns (terminals 1-3) = 0.084 ohm.

$$\text{Impedance} = 0.133 + 0.084 \left(\frac{160}{100}\right)^2 = 0.348$$

The burden impedance should be at least 34.8 ohms.

Construction Features

Terminals

Coil leads are brought out to stud type terminals, each mounted in a shielded recess in the molded terminal block.

Core and Coils

Coils are impregnated with a plastic compound to prevent moisture penetration. This also increases dielectric strength. Hipersil® cores are used.

Mounting

This transformer has all-welded core supports. The base is designed with slots for flat surface mounting and for pipe frame mounting using U-bolts.

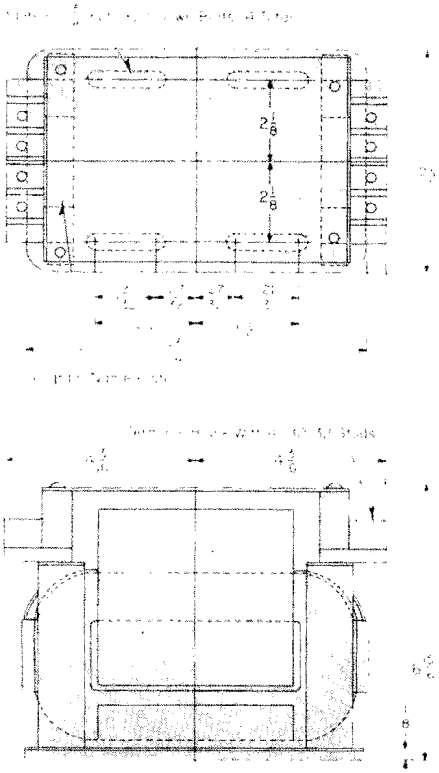
Style Numbers

To determine style number desired, refer to nameplate data on pages 3 and 4.

August, 1965
Supersedes CS 44-132 Dated April 12, 1961
Mailed to: E/1153/DB; D/824/DB; C/386, 388/DB

Westinghouse

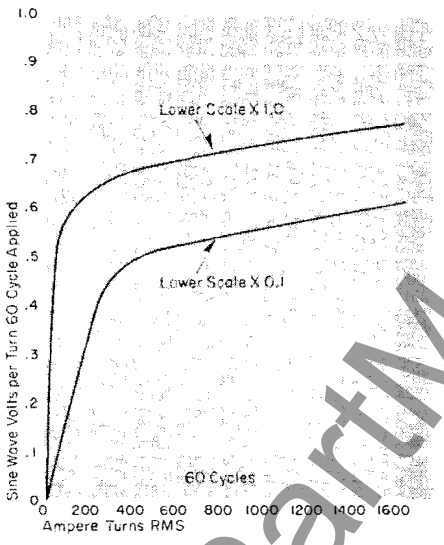
Dimensions and Weights



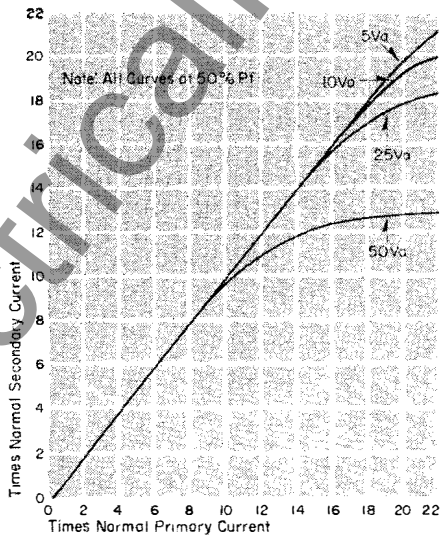
Approx. Weight, Pounds:
27 Net, 30 Shipping.

Performance Curves

Saturation Curves



Overcurrent Ratio Curves



Ratio Reference

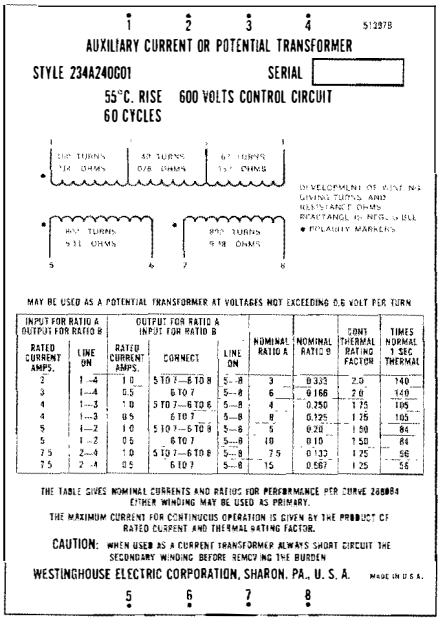
Ratio	Style Number	Rating Factor
3/.5	234A240G01	2.0
3/1	234A240G01	2.0
	234A241G04	2.0
3/2	234A240G02	2.0
	234A241G04	2.0
4/.5	234A240G01	1.75
4/1	234A240G01	1.75
	234A241G04	1.75
4/2	234A240G02	1.75
	234A241G04	1.75
4/3	234A240G02	2.0
4/4	234A240G02	1.75
	234A240G07	2.0
4.62/4	234A240G07	1.75
4.8/4	234A240G07	1.75
5/.5	234A240G01	1.5
5/1	234A240G01	1.5
	234A241G04	1.5
5/2	234A240G02	1.5
	234A241G04	1.5
5/3	234A241G03	2.0
5/4	234A240G02	1.5
	234A241G03	1.75
5/5	234A241G03	1.5
6/.5	234A240G04	2.0
6/1	234A240G04	2.0
	234A240G05	2.0
6/2	234A240G05	2.0
6/4	234A240G06	2.0
6/5	234A240G03	2.0
7.5/.5	234A240G01	1.25
7.5/1	234A240G01	1.25
	234A241G04	1.25
7.5/2	234A240G02	1.25
	234A241G04	1.25
7.5/4	234A240G02	1.25
8/.5	234A240G04	1.75
8/1	234A240G04	1.75
	234A240G05	1.75
8/2	234A240G05	1.75
8/4	234A240G06	1.75
	234A240G07	2.0
8/4.62	234A240G07	1.75
8/4.8	234A240G07	1.75
8/5	234A240G03	1.75
8/6	234A240G06	2.0
8/8	234A240G06	1.75
10/.5	234A240G04	1.5
10/1	234A240G04	1.5
	234A240G05	1.5
10/2	234A240G05	1.5
10/3	234A241G02	2.0
	234A241G03	2.0
10/4	234A240G06	1.5
	234A241G02	1.75
	234A241G03	1.75
10/5	234A240G03	1.5
	234A241G02	1.5
	234A241G03	1.5
10/6	234A240G03	2.0
10/7.5	234A241G02	1.25
10/8	234A240G03	1.75
	234A240G06	1.50
10/10	234A240G03	1.5
16/4	234A241G01	2.0
16/5.33	234A241G01	1.75
16/6.4	234A241G01	1.5
16/10.66	234A241G01	1.25
20/3	234A241G02	2.0
20/4	234A241G02	1.75
20/5	234A241G02	1.5
20/7.5	234A241G02	1.25
32/4	234A241G01	2.0
32/5.33	234A241G01	1.75
32/6.4	234A241G01	1.5
32/10.66	234A241G01	1.25

Auxiliary Current or Potential Transformers

Indoor, 60 Cycles
600 Volts Control Circuit Voltage
2500 Volts Test Voltage

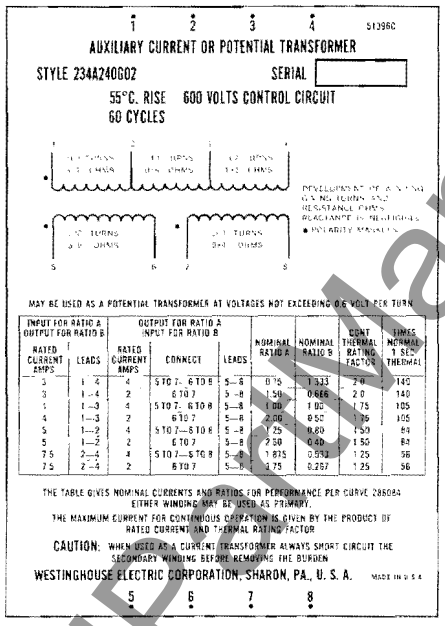
Nameplate Data

Style Number 234A240G01



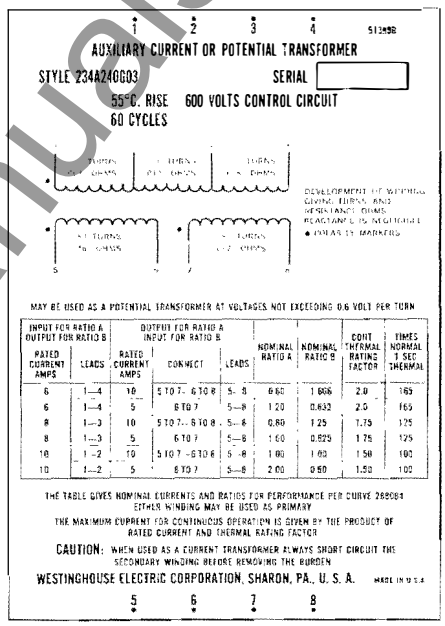
INPUT FOR RATIO A / OUTPUT FOR RATIO B		OUTPUT FOR RATIO A / INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT THERMAL RATING FACTOR	TIMES NORMAL 1 SEC THERMAL
RATED CURRENT AMPS.	LINE ON	RATED CURRENT AMPS.	CONNECT	LINE ON				
2	1—4	1.0	5 TO 7—6 TO 8	5—8	3	0.333	2.0	140
3	1—4	0.5	6 TO 7	5—8	6	0.166	2.0	140
4	1—3	1.0	5 TO 7—6 TO 8	5—8	4	0.250	1.75	105
4	1—3	0.5	6 TO 7	5—8	8	0.125	1.75	105
5	1—2	1.0	5 TO 7—6 TO 8	5—8	5	0.20	1.50	84
5	1—2	0.5	6 TO 7	5—8	10	0.10	1.50	84
7.5	2—4	1.0	5 TO 7—6 TO 8	5—8	7.5	0.133	1.25	56
7.5	2—4	0.5	6 TO 7	5—8	15	0.067	1.25	56

Style Number 234A240G02



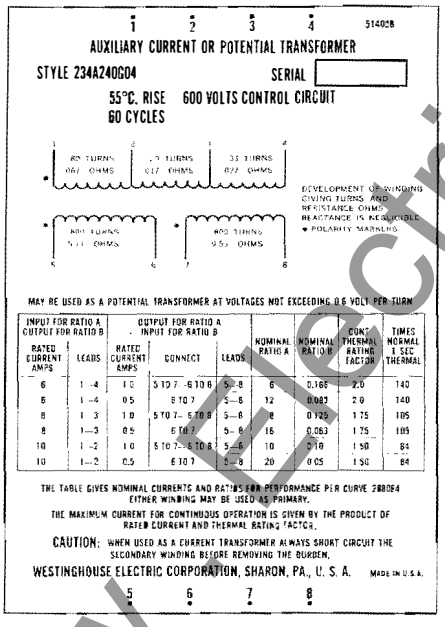
INPUT FOR RATIO A / OUTPUT FOR RATIO B		OUTPUT FOR RATIO A / INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT THERMAL RATING FACTOR	TIMES NORMAL 1 SEC THERMAL
RATED CURRENT AMPS	LEADS	RATED CURRENT AMPS	CONNECT	LEADS				
3	1—4	4	5 TO 7—6 TO 8	5—8	0.75	1.333	2.0	140
3	1—4	2	6 TO 7	5—8	1.50	0.666	2.0	140
4	1—3	4	5 TO 7—6 TO 8	5—8	1.00	1.00	1.75	105
4	1—3	2	6 TO 7	5—8	2.00	0.50	1.75	105
5	1—2	4	5 TO 7—6 TO 8	5—8	1.25	0.80	1.50	84
5	1—2	2	6 TO 7	5—8	2.50	0.40	1.50	84
7.5	2—4	4	5 TO 7—6 TO 8	5—8	1.875	0.533	1.25	56
7.5	2—4	2	6 TO 7	5—8	3.75	0.267	1.25	56

Style Number 234A240G03



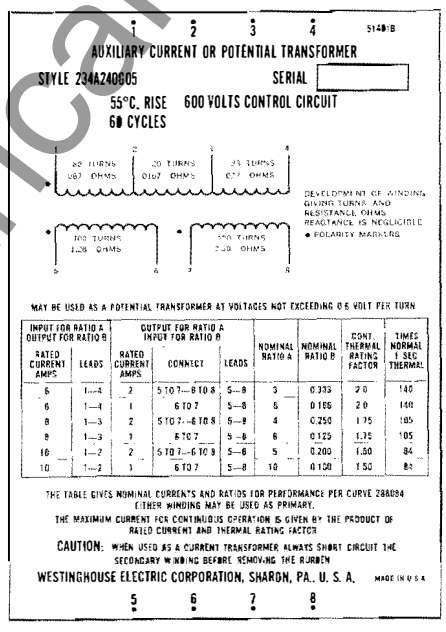
INPUT FOR RATIO A / OUTPUT FOR RATIO B		OUTPUT FOR RATIO A / INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT THERMAL RATING FACTOR	TIMES NORMAL 1 SEC THERMAL
RATED CURRENT AMPS	LEADS	RATED CURRENT AMPS	CONNECT	LEADS				
6	1—4	10	5 TO 7—6 TO 8	5—8	0.60	1.666	2.0	165
6	1—4	5	6 TO 7	5—8	1.20	0.833	2.0	165
8	1—3	10	5 TO 7—6 TO 8	5—8	0.80	1.25	1.75	125
8	1—3	5	6 TO 7	5—8	1.60	0.625	1.75	125
10	1—2	10	5 TO 7—6 TO 8	5—8	1.00	1.00	1.50	100
10	1—2	5	6 TO 7	5—8	2.00	0.50	1.50	100

Style Number 234A240G04



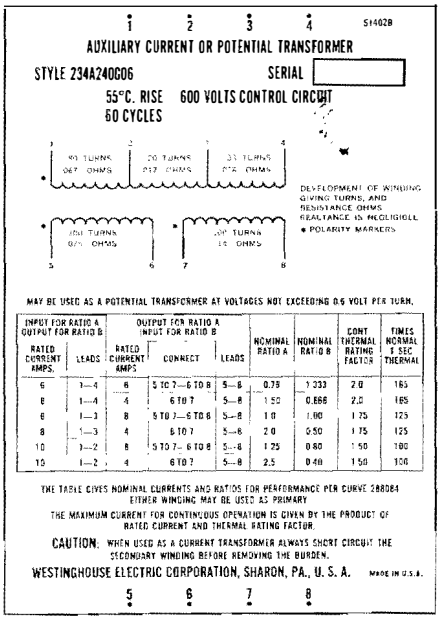
INPUT FOR RATIO A / OUTPUT FOR RATIO B		OUTPUT FOR RATIO A / INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT THERMAL RATING FACTOR	TIMES NORMAL 1 SEC THERMAL
RATED CURRENT AMPS	LEADS	RATED CURRENT AMPS	CONNECT	LEADS				
6	1—4	10	5 TO 7—6 TO 8	5—8	6	0.166	2.0	140
6	1—4	5	6 TO 7	5—8	12	0.083	2.0	140
8	1—3	10	5 TO 7—6 TO 8	5—8	8	0.125	1.75	105
8	1—3	5	6 TO 7	5—8	16	0.063	1.75	105
10	1—2	10	5 TO 7—6 TO 8	5—8	10	0.10	1.50	84
10	1—2	5	6 TO 7	5—8	20	0.05	1.50	84

Style Number 234A240G05



INPUT FOR RATIO A / OUTPUT FOR RATIO B		OUTPUT FOR RATIO A / INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT THERMAL RATING FACTOR	TIMES NORMAL 1 SEC THERMAL
RATED CURRENT AMPS	LEADS	RATED CURRENT AMPS	CONNECT	LEADS				
6	1—4	2	5 TO 7—6 TO 8	5—8	3	0.333	2.0	140
6	1—4	1	6 TO 7	5—8	6	0.166	2.0	140
8	1—3	2	5 TO 7—6 TO 8	5—8	4	0.250	1.75	105
8	1—3	1	6 TO 7	5—8	8	0.125	1.75	105
10	1—2	2	5 TO 7—6 TO 8	5—8	5	0.200	1.50	84
10	1—2	1	6 TO 7	5—8	10	0.100	1.50	84

Style Number 234A240G06



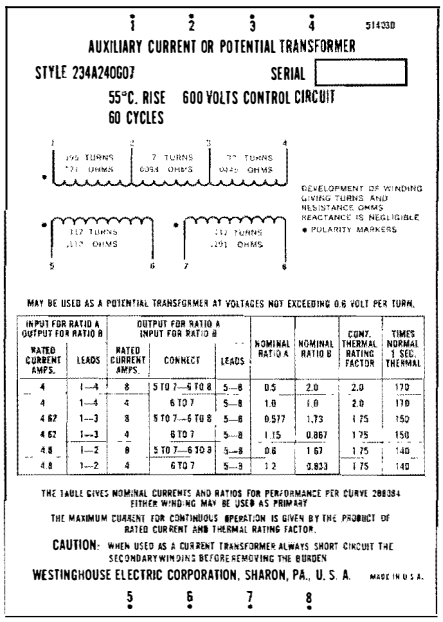
INPUT FOR RATIO A / OUTPUT FOR RATIO B		OUTPUT FOR RATIO A / INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT THERMAL RATING FACTOR	TIMES NORMAL 1 SEC THERMAL
RATED CURRENT AMPS	LEADS	RATED CURRENT AMPS	CONNECT	LEADS				
6	1—4	8	5 TO 7—6 TO 8	5—8	0.75	1.333	2.0	165
8	1—4	4	6 TO 7	5—8	1.50	0.666	2.0	165
8	1—3	8	5 TO 7—6 TO 8	5—8	1.0	1.00	1.75	125
8	1—3	4	6 TO 7	5—8	2.0	0.50	1.75	125
10	1—2	8	5 TO 7—6 TO 8	5—8	1.25	0.80	1.50	100
10	1—2	4	6 TO 7	5—8	2.5	0.40	1.50	100

Auxiliary Current or Potential Transformers

Indoor, 60 Cycles
600 Volts Control Circuit Voltage
2500 Volts Test Voltage

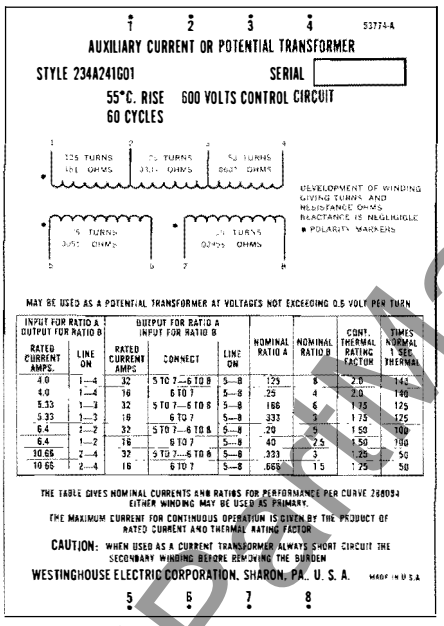
Nameplate Data—Continued

Style Number 234A240G07



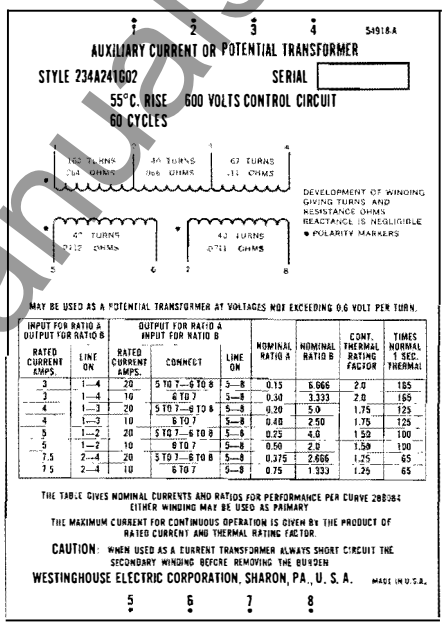
INPUT FOR RATIO A OUTPUT FOR RATIO B		OUTPUT FOR RATIO A INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT. THERMAL RATING FACTOR	TIMES NORMAL 1 SEC. THERMAL
RATED CURRENT AMPS.	LEADS	RATED CURRENT AMPS.	CONNECT	LEADS				
4	1—4	8	5 TO 7—6 TO 8	5—8	0.5	2.0	2.0	170
4	1—4	4	6 TO 7	5—8	1.0	1.0	2.0	170
4.62	1—3	8	5 TO 7—6 TO 8	5—8	0.577	1.73	1.75	150
4.62	1—3	4	6 TO 7	5—8	1.15	0.867	1.75	150
4.8	1—2	8	5 TO 7—6 TO 8	5—8	0.6	1.67	1.75	140
4.8	1—2	4	6 TO 7	5—8	1.2	0.833	1.75	140

Style Number 234A241G01



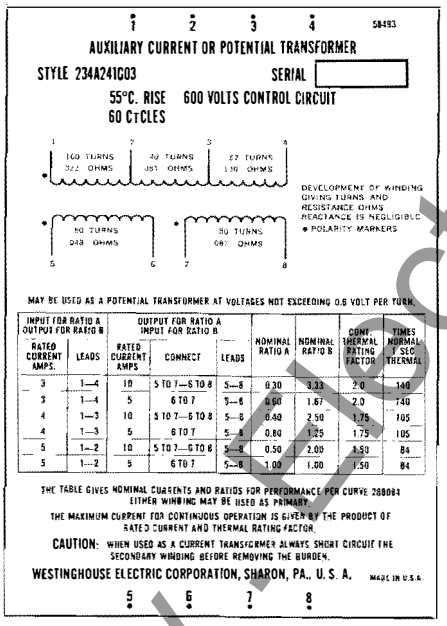
INPUT FOR RATIO A OUTPUT FOR RATIO B		OUTPUT FOR RATIO A INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT. THERMAL RATING FACTOR	TIMES NORMAL 1 SEC. THERMAL
RATED CURRENT AMPS.	LINE ON	RATED CURRENT AMPS.	CONNECT	LINE ON				
4.0	1—4	32	5 TO 7—6 TO 8	5—8	.125	8	2.0	143
4.0	1—4	16	6 TO 7	5—8	.25	4	2.0	140
5.33	1—3	32	5 TO 7—6 TO 8	5—8	.166	6	1.75	125
5.33	1—3	16	6 TO 7	5—8	.333	3	1.75	125
6.4	1—2	32	5 TO 7—6 TO 8	5—8	.20	5	1.50	100
6.4	1—2	16	6 TO 7	5—8	.40	2.5	1.50	100
10.66	2—4	32	5 TO 7—6 TO 8	5—8	.333	3	1.25	50
10.66	2—4	16	6 TO 7	5—8	.666	1.5	1.25	50

Style Number 234A241G02



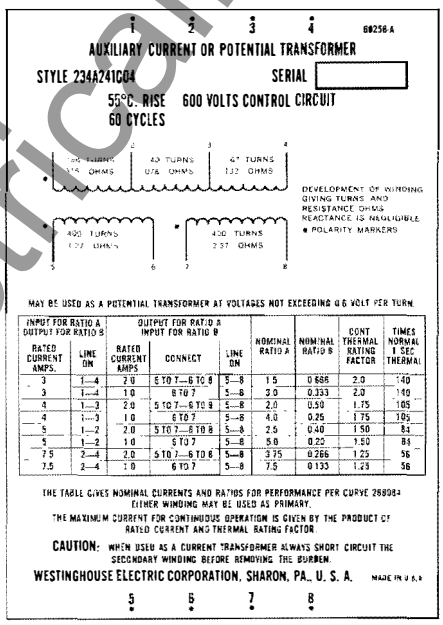
INPUT FOR RATIO A OUTPUT FOR RATIO B		OUTPUT FOR RATIO A INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT. THERMAL RATING FACTOR	TIMES NORMAL 1 SEC. THERMAL
RATED CURRENT AMPS.	LINE ON	RATED CURRENT AMPS.	CONNECT	LINE ON				
3	1—4	20	5 TO 7—6 TO 8	5—8	0.15	6.666	2.0	185
3	1—4	10	6 TO 7	5—8	0.30	3.333	2.0	165
4	1—3	20	5 TO 7—6 TO 8	5—8	0.20	5.0	1.75	125
4	1—3	10	6 TO 7	5—8	0.40	2.50	1.75	125
5	1—2	20	5 TO 7—6 TO 8	5—6	0.25	4.0	1.50	100
5	1—2	10	6 TO 7	5—8	0.50	2.0	1.50	100
7.5	2—4	20	5 TO 7—6 TO 8	5—8	0.375	2.666	1.25	65
7.5	2—4	10	6 TO 7	5—8	0.75	1.333	1.25	65

Style Number 234A241G03



INPUT FOR RATIO A OUTPUT FOR RATIO B		OUTPUT FOR RATIO A INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT. THERMAL RATING FACTOR	TIMES NORMAL 1 SEC. THERMAL
RATED CURRENT AMPS.	LEADS	RATED CURRENT AMPS.	CONNECT	LEADS				
3	1—4	10	5 TO 7—6 TO 8	5—8	0.30	3.33	2.0	140
3	1—4	5	6 TO 7	5—8	0.60	1.67	2.0	140
4	1—3	10	5 TO 7—6 TO 8	5—8	0.40	2.50	1.75	105
4	1—3	5	6 TO 7	5—8	0.80	1.25	1.75	105
5	1—2	10	5 TO 7—6 TO 8	5—8	0.50	2.00	1.50	84
5	1—2	5	6 TO 7	5—8	1.00	1.00	1.50	84

Style Number 234A241G04



INPUT FOR RATIO A OUTPUT FOR RATIO B		OUTPUT FOR RATIO A INPUT FOR RATIO B			NOMINAL RATIO A	NOMINAL RATIO B	CONT. THERMAL RATING FACTOR	TIMES NORMAL 1 SEC. THERMAL
RATED CURRENT AMPS.	LINE ON	RATED CURRENT AMPS.	CONNECT	LINE ON				
3	1—4	20	5 TO 7—6 TO 8	5—8	1.5	0.666	2.0	140
3	1—4	10	6 TO 7	5—8	3.0	0.333	2.0	140
4	1—3	20	5 TO 7—6 TO 8	5—8	2.0	0.50	1.75	105
4	1—3	10	6 TO 7	5—8	4.0	0.25	1.75	105
5	1—2	20	5 TO 7—6 TO 8	5—8	2.5	0.40	1.50	84
5	1—2	10	6 TO 7	5—8	5.0	0.20	1.50	84
7.5	2—4	20	5 TO 7—6 TO 8	5—8	3.75	0.266	1.25	56
7.5	2—4	10	6 TO 7	5—8	7.5	0.133	1.25	56

Further Information

Prices: Price List 44-020