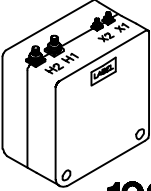
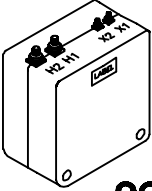
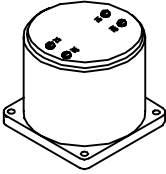
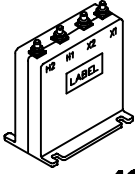
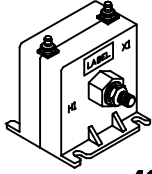
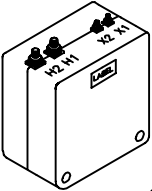
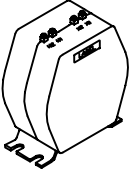
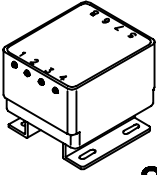


WOUND PRIMARY CURRENT TRANSFORMERS

AUXILIARY TRANSFORMERS

	MODEL NUMBER	OVERALL SIZE			PAGE
		Width	Height	Depth	
  <p>190 20</p>	<p>190</p> <p>20</p>	<p>4.50 x 5.32 x 2.19</p> <p>4.59 x 5.57 x 3.00</p>	2-3		
 <p>188</p>	<p>188</p>	<p>5.25 x 5.25 x 5.25</p>	4		
  <p>10WP 189</p>	<p>10WP</p> <p>189</p>	<p>4.06 x 5.00 x 2.12</p> <p>2.70 x 3.19 x 4.10</p>	5		
 <p>81</p>	<p>81</p>	<p>6.12 x 6.75 x 3.00</p>	6		
 <p>200WP</p>	<p>200WP</p>	<p>8.38 x 10.15 x 4.62</p>	7		
 <p>82X</p>	<p>82X</p>	<p>8.06 x 6.94 x 6.75</p>	8		

CURRENT TRANSFORMERS

Model 190

Wound Primary

Model 190X

Auxiliary Transformer

FREQUENCY:
50–400Hz

CONTINUOUS THERMAL CURRENT RATING FACTOR:

1.33 at 30°C. amb,
1.0 at 55°C. amb.

INSULATION LEVEL MODEL 190 WOUND PRIMARY:

0.6 kV, BIL 10kV full wave.

- Terminals are brass studs No.8–32 with one flatwasher, lockwasher and regular nut, for ratios up to 25:5 and 1/4–20 studs for higher ratios.
- Order Mounting Bracket Kit No. 0221B00777
- Approximate weight 4 lbs.

REGULATORY AGENCY APPROVALS



Manufactured to meet the requirements of ANSI/IEEE C57.13.
Classified by U.L. in accordance with IEC 44–1

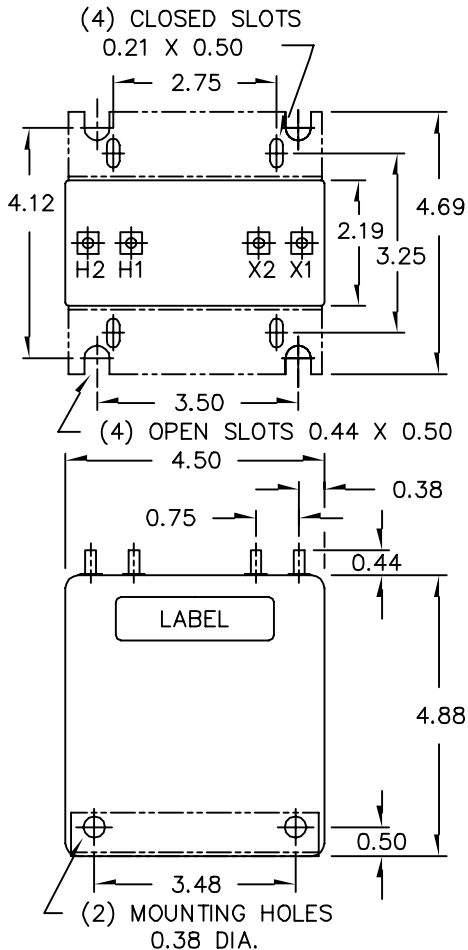
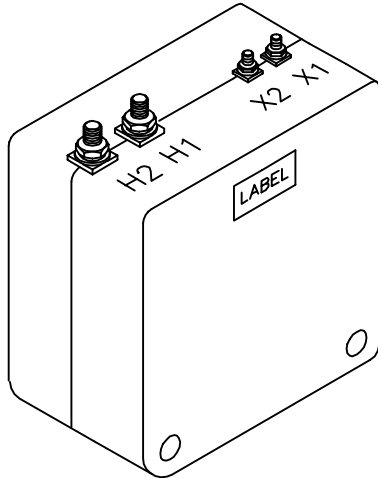
MODEL 190

The Model 190 is a low ratio wound primary current transformer, suitable for primary currents up to 50 amperes. The table below lists the most common current ratings.

CATALOG NUMBER	VA FOR 1% CLASS	ANSI METERING CLASS AT 60 Hz				
		B0.1	B0.2	B0.5	B0.9	B1.8
190–2–XXX	12.5	0.6	0.6	1.2	2.4	–
190–4–XXX	30.0	0.3	0.3	0.3	0.6	1.2

RATIO	1:5	2.5:5	5:5	7.5:5	10:5	15:5	20:5	25:5	30:5	40:5	50:5
SUFFIX	001	0025	005	0075	010	015	020	025	030	040	050

* * *
* 1/4–20 stud terminals.



MODEL 190X

ANSI Metering Class: 0.3 B0.5

The Model 190X is an auxiliary transformer for use in the secondary of main current transformers to change the ratio for metering applications. Since the Model 190X is used in the secondary of another current transformer it has no voltage rating. It is given a 2500 volt 60 Hz high potential test. It is designed to be used on circuits not to exceed 600 volts to ground or between windings.

CATALOG NUMBER	CURRENT RATIO
190x0100	5:0.100
190X0200	5:0.200
190X0250	5:0.250
190X0500	5:0.500
190X0625	5:0.625
190X1000	5:1.000
190X1250	5:1.250
190X1667	5:1.667
190X2000	5:2.000
190X2395	5:2.395
190X2500	5:2.500
190X2890	5:2.890
190X3000	5:3.000
190X3330	5:3.330
190X3750	5:3.750
190X4000	5:4.000
190X5000	5:5.000
190X5330	5:5.330

CATALOG NUMBER	CURRENT RATIO
190X6250	5:6.250
190X7500	5:7.500
190X8000	5:8.000
190X10000	5:10.000
190X12500	5:12.500
190X15000	5:15.000
190X1500–5	1.500:5
190X1667–5	1.667:5
190X2500–5	2.500:5
190X2875–5	2.875:5
190X7500–5	7.500:5
190X10500–5	10.500:5
190X0500–1	0.500:1
190X0923–1	0.923:1
190X0400–10	0.400:10
190XSUM–2 **	5+5:5
190XSUM–3 **	5+5+5:5
190XSUM–4 **	5+5+5+5:5
190XSUM–5 **	5+5+5+5+5:5

** The circuits of up to five secondaries may be totaled. Equal or unequal line current transformers can be summed with this transformer. Advise the ratios of the line current transformers to be totaled. Output terminals are X1–X2.

CURRENT TRANSFORMERS

Model 20

Wound Primary

Model 20X

Auxiliary Transformer

FREQUENCY:
50-400Hz

CONTINUOUS THERMAL CURRENT RATING FACTOR:

1.33 at 30°C. amb,
1.0 at 55°C. amb.

INSULATION LEVEL

MODEL 20 WOUND PRIMARY:
0.6 kV, BIL 10kV full wave.

- Terminals are brass studs No.8-32 with one flatwasher, lockwasher and regular nut, for ratios up to 25:5 and 1/4-20 studs for higher ratios.

- Order Mounting Bracket Kit No. 0221B00541
- Approximate weight 8 lbs.

REGULATORY AGENCY APPROVALS



Manufactured to meet the requirements of ANSI/IEEE C57.13.
Classified by U.L. in accordance with IEC 44-1

Model 20

The Model 20 is a low ratio wound primary current transformer, suitable for primary currents up to 50 amperes. It is rated for metering and relaying applications. The table below lists the most common current ratings. Other ratios are available.

CATALOG NUMBER	VA FOR 1% CLASS	RELAY CLASS	ANSI METERING CLASS AT 60 Hz				
			B0.1	B0.2	B0.5	B0.9	B1.8
20-2-XXX	25.0	T10	0.3	0.3	0.6	1.2	2.4
20-4-XXX	125	T20	0.3	0.3	0.3	0.3	0.3

RATIO	1:5	2.5:5	5:5	7.5:5	10:5	15:5	20:5	25:5	30:5	40:5	50:5
SUFFIX	001	0025	005	0075	010	015	020	025	030	040	050

* 1/4-20 stud terminals.

Model 20X

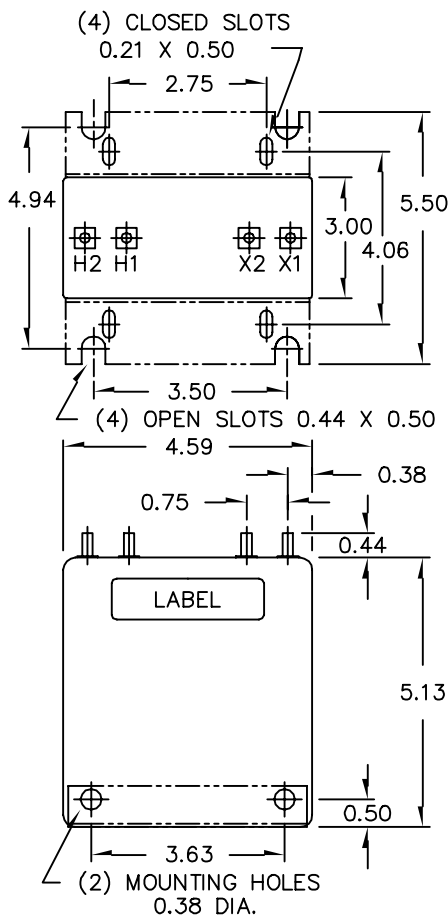
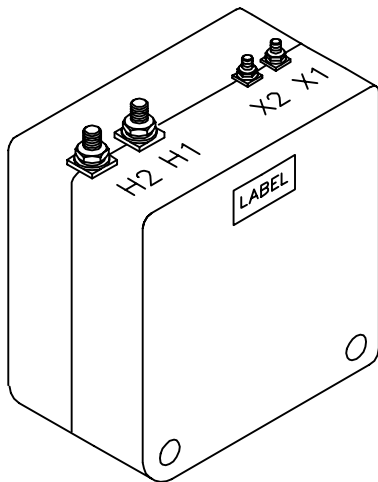
ANSI Metering Class: 0.3 B1.8

The Model 20X is an auxiliary transformer for use in the secondary of main current transformers to change the ratio for metering applications.

Since the Model 20X is used in the secondary of another current transformer it has no voltage rating. It is given a 2500 volt 60 Hz high potential test. It is designed to be used on circuits not to exceed 600 volts to ground or between windings.

CATALOG NUMBER	CURRENT RATIO	CATALOG NUMBER	CURRENT RATIO
20X0100	5:0.100	20X6250	5:6.250
20X0200	5:0.200	20X7500	5:7.500
20X0250	5:0.250	20X8000	5:8.000
20X0500	5:0.500	20X10000	5:10.000
20X0625	5:0.625	20X12500	5:12.500
20X1000	5:1.000	20X15000	5:15.000
20X1250	5:1.250	20X1500-5	1.500:5
20X1667	5:1.667	20X1667-5	1.667:5
20X2000	5:2.000	20X2500-5	2.500:5
20X2395	5:2.395	20X2875-5	2.875:5
20X2500	5:2.500	20X7500-5	7.500:5
20X2890	5:2.890	20X10500-5	10.500:5
20X3000	5:3.000	20X0500-1	0.500:1
20X3330	5:3.330	20X0923-1	0.923:1
20X3750	5:3.750	20X0400-10	0.400:10
20X4000	5:4.000	20XSUM-2 **	5+5:5
20X5000	5:5.000	20XSUM-3 **	5+5+5:5
20X5330	5:5.330	20XSUM-4 **	5+5+5+5:5
		20XSUM-5 **	5+5+5+5+5:5

** The circuits of up to five secondaries may be totalized. Equal or unequal line current transformers can be summed with this transformer. Advise the ratios of the line current transformers to be totalized. Output terminals are X1-X2.



CURRENT TRANSFORMER

Model 188

Auxiliary Transformer

APPLICATION:

For use in the secondary of current transformers to change ratio for metering applications.

CONTINUOUS THERMAL CURRENT RATING FACTOR:

1.5 at 30°C. amb.
1.0 at 55°C. amb.

FREQUENCY:

50–400 Hz.

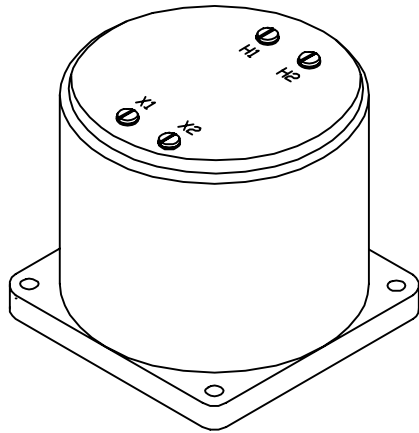
- Terminals are No. 10–32 brass binding head screws.

- Approximate weight 10 lbs.

REGULATORY AGENCY APPROVALS



Manufactured to meet the requirements of ANSI/IEEE C57.13.
Classified by U.L. in accordance with IEC 44-1

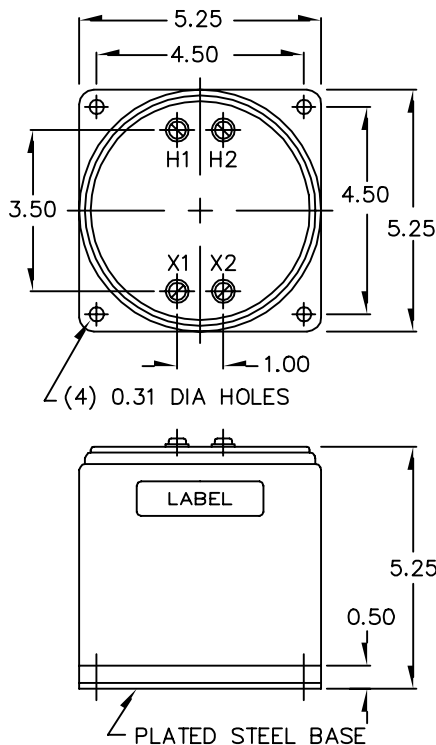


MODEL 188

ANSI Metering Class: 0.3 thru B0.2

The Model 188 is a low ratio auxiliary current transformer, suitable for primary currents up to 15 amperes. The table below lists the most common current ratings. The transformer core and coil are encapsulated in a polyurethane resin, which also secures the steel mounting base.

Since the Model 188 is used in the secondary of another transformer it has no voltage rating. It is given a 2500 volt 60 Hz high potential test. It is designed to be used on circuits not to exceed 600 volts to ground or between windings.



CATALOG NUMBER	CURRENT RATIO	CATALOG NUMBER	CURRENT RATIO
188X0100	5: 0.100	188X6250	5: 6.250
188X0200	5: 0.200	188X7500	5: 7.500
188X0250	5: 0.250	188X8000	5: 8.000
188X0500	5: 0.500	188X10000	5: 10.000
188X0625	5: 0.625	188X12500	5: 12.500
188X1000	5: 1.000	188X15000	5: 15.000
188X1250	5: 1.250	188X1500-5	1.500: 5
188X1667	5: 1.667	188X1667-5	1.667: 5
188X2000	5: 2.000	188X2500-5	2.500: 5
188X2395	5: 2.395	188X2875-5	2.875: 5
188X2500	5: 2.500	188X7500-5	7.500: 5
188X2890	5: 2.890	188X10000-5	10.000: 5
188X3000	5: 3.000	188X0500-1	0.500: 1
188X3330	5: 3.330	188X0923-1	0.923: 1
188X3750	5: 3.750	188X0400-10	0.400: 10
188X4000	5: 4.000	188XSUM-2 *	5+5: 5
188X5000	5: 5.000	188XSUM-4 *	5+5+5+5: 5
188X5330	5: 5.330	188XSUM-5 *	5+5+5+5+5: 5

* The circuits of up to six secondaries may be totalized. Equal or unequal line current transformers can be summed with this transformer. Advise the ratios of the line current transformers to be totalized. Output terminals are X1–X2.

CURRENT TRANSFORMERS

MODELS 10WP, 189

Wound Primary

APPLICATION:
Ammeters and wattmeters

CONTINUOUS THERMAL CURRENT RATING FACTOR:
1.33 at 30°C. amb, 1.0 at 55°C. amb.

FREQUENCY:
50-400 Hz

INSULATION LEVEL:
0.6 kV, BIL 10kV full wave.

- Secondary terminals are brass studs No.8-32 UNC with one flatwasher, lockwasher and regular nut.
- Approximate weight:
Model 10WP-1.5 lbs.
Model 189-0.75 lbs.

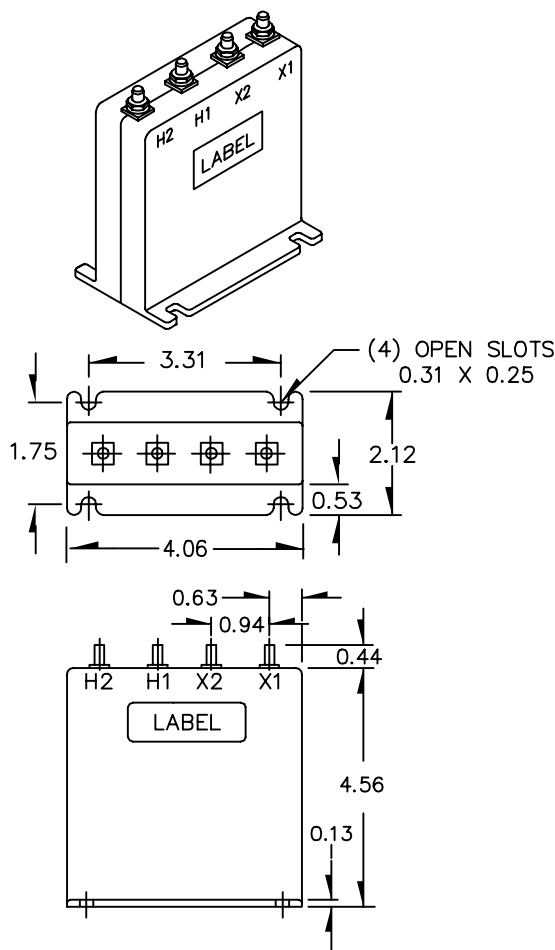
REGULATORY AGENCY APPROVALS



Manufactured to meet the requirements of ANSI/IEEE C57.13.
Classified by U.L. in accordance with IEC 44-1

The Model 10WP is a low ratio wound primary current transformer, suitable for primary currents up to 40 amperes. The table below lists the most common current ratings. Primary terminals for the Model 10WP are: for ratios of 25:5 and below, No. 8-32 brass studs with one flatwasher, lockwasher and regular nut, for ratios of 30:5 and above, 1/4-20 brass studs with one flatwasher, lockwasher and regular nut.

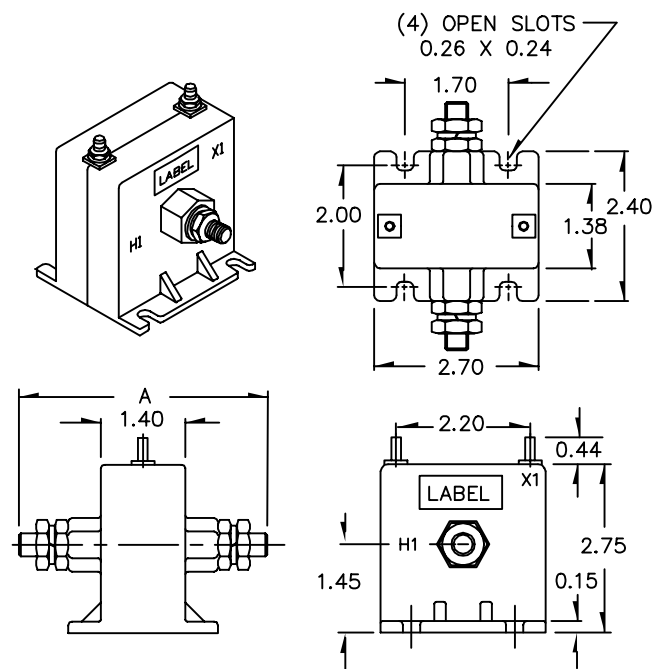
MODEL 10WP



CATALOG NUMBER	CURRENT RATIO	ANSI METERING CLASS AT 60 Hz	
		B0.1	B0.2
10WP-0025	2.5:5	0.6	0.6
10WP-005	5:5	0.6	0.6
10WP-0075	7.5:5	0.6	0.6
10WP-010	10:5	0.6	0.6
10WP-015	15:5	0.6	0.6
10WP-020	20:5	0.6	0.6
10WP-025	25:5	0.6	0.6
10WP-030	30:5	0.6	0.6
10WP-040	40:5	0.6	0.6

The Model 189 is a low ratio wound primary current transformer, suitable for primary currents up to 100 amperes. The table below lists the most common current ratings. Primary terminals for the Model 189 for ratios of 30:5 and below are No.10-32 brass screws with one lockwasher (Dimension A=3.28), for ratios 40:5 and above, 3/8-16 brass studs with one lockwasher and regular nut (Dimension A=4.10).

MODEL 189



CATALOG NUMBER	CURRENT RATIO	ANSI METERING CLASS AT 60 Hz	
		B0.1	B0.2
189-0025	2.5:5	0.6	0.6
189-005	5:5	0.6	0.6
189-0075	7.5:5	0.6	0.6
189-010	10:5	0.6	0.6
189-015	15:5	0.6	0.6
189-020	20:5	0.6	0.6
189-025	25:5	0.6	0.6
189-030	30:5	0.6	0.6
189-040	40:5	0.6	0.6
189-050	50:5	0.6	0.6
189-060	60:5	0.6	0.6
189-075	75:5	0.6	0.6
189-080	80:5	0.6	0.6
189-101	100:5	0.6	0.6

CURRENT TRANSFORMERS

Model 81

Wound Primary

Model 81X

Auxiliary Transformer

FREQUENCY:
50-400Hz

CONTINUOUS THERMAL CURRENT RATING FACTOR:
1.33 at 30°C. amb,
1.0 at 55°C. amb.

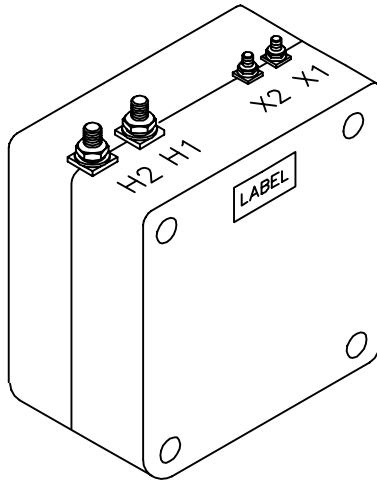
INSULATION LEVEL MODEL 81 WOUND PRIMARY:
0.6 kV, BIL 10kV full wave.

- Terminals are brass studs No.8-32 with one flatwasher, lockwasher and regular nut, for ratios up to 25:5 and 1/4-20 studs for higher ratios.
- Order Mounting Bracket Kit No. 0221B00259
- Approximate weight 18 lbs.

REGULATORY AGENCY APPROVALS



Manufactured to meet the requirements of ANSI/IEEE C57.13. Classified by U.L. in accordance with IEC 44-1



Model 81

The Model 81 is a low ratio wound primary current transformer, suitable for primary currents up to 50 amperes. It is rated for metering and relaying applications. The table below lists the most common current ratings. Other ratios are available.

CATALOG NUMBER	VA FOR 1% CLASS	RELAY CLASS	ANSI METERING CLASS AT 60 Hz				
			B0.1	B0.2	B0.5	B0.9	B1.8
81-XXX	200	T50	0.3	0.3	0.3	0.3	0.3

RATIO	1:5	2.5:5	5:5	7.5:5	10:5	15:5	20:5	25:5	30:5	40:5	50:5
SUFFIX	001	0025	005	0075	010	015	020	025	030	040	050

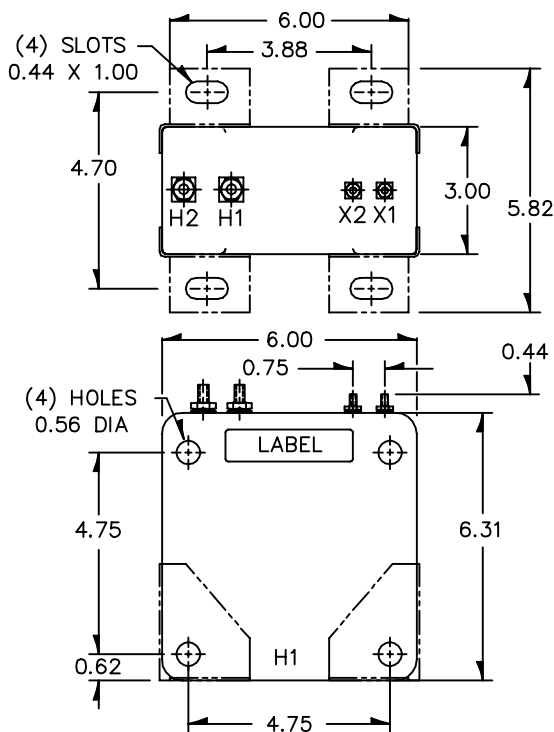
* 1/4-20 stud terminals.

Model 81X

ANSI Metering Class 0.3 B1.8

The Model 81X is an auxiliary transformer for use in the secondary of main current transformers to change the ratio for metering applications.

Since the Model 81X is used in the secondary of another current transformer it has no voltage rating. It is given a 2500 Volt 60 Hz high potential test. It is designed to be used on circuits not to exceed 600 Volts to ground or between windings.



CATALOG NUMBER	CURRENT RATIO
81X0100	5:0.100
81X0200	5:0.200
81X0250	5:0.250
81X0500	5:0.500
81X0625	5:0.625
81X1000	5:1.000
81X1250	5:1.250
81X1667	5:1.667
81X2000	5:2.000
81X2395	5:2.395
81X2500	5:2.500
81X2890	5:2.890
81X3000	5:3.000
81X3330	5:3.330
81X3750	5:3.750
81X4000	5:4.000
81X5000	5:5.000
81X5330	5:5.330

CATALOG NUMBER	CURRENT RATIO
81X6250	5:6.250
81X7500	5:7.500
81X8000	5:8.000
81X10000	5:10.000
81X12500	5:12.500
81X15000	5:15.000
81X1500-5	1.500:5
81X1667-5	1.667:5
81X2500-5	2.500:5
81X2875-5	2.875:5
81X7500-5	7.500:5
81X10500-5	10.500:5
81X0500-1	0.500:1
81X0923-1	0.923:1
81X0400-10	0.400:10
81XSUM-2 **	5+5:5
81XSUM-3 **	5+5+5:5

** The circuits of up to five secondaries may be totaled. Equal or unequal line current transformers can be summed with this transformer. Advise the ratios of the line current transformers to be totaled. Output terminals are X1-2.

CURRENT TRANSFORMERS

Model 200WP

Wound Primary

Model 200X

Auxiliary Transformer

FREQUENCY:
50–400Hz

CONTINUOUS THERMAL CURRENT RATING FACTOR:

1.33 at 30°C. amb,
1.0 at 55°C. amb.

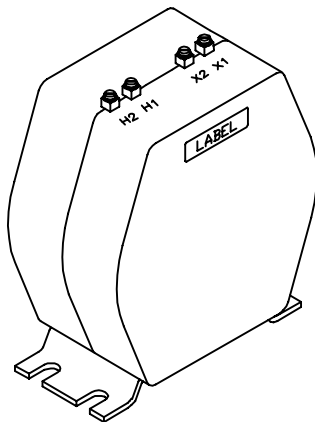
INSULATION LEVEL
MODEL 200 WOUND PRIMARY:
0.6 kV, BIL 10kV full wave.

- Terminals are 10–32 brass screws with one flatwasher, lockwasher and regular nut for ratios up to 25:5 and 1/4–20 studs for higher ratios.
- Approximate weight 46 lbs.

REGULATORY AGENCY APPROVALS



Manufactured to meet the requirements of ANSI/IEEE C57
Classified by U.L. in accordance with IEC 44–1



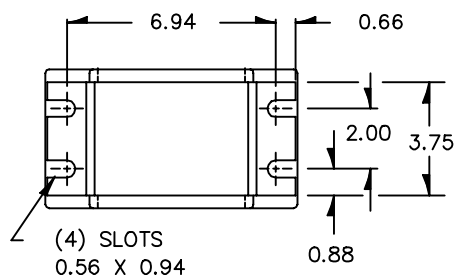
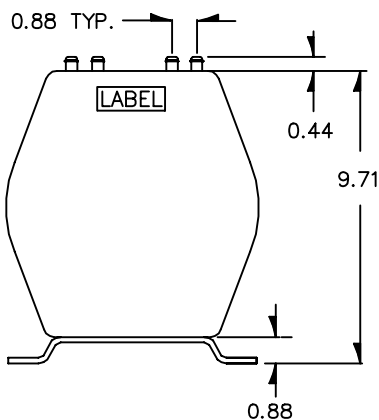
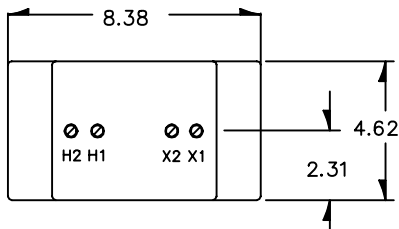
Model 200WP

The Model 200WP is a low ratio wound primary current transformer, suitable for primary currents up to 50 amperes. It is rated for metering and relaying applications. The table below lists the most common current ratings. Other ratios are available.

CATALOG NUMBER	VA FOR 1% CLASS	RELAY CLASS	ANSI METERING CLASS AT 60 Hz				
			B0.1	B0.2	B0.5	B0.9	B1.8
200WP–1–XXX	150	T100	0.3	0.3	0.3	0.3	0.6
200WP–2–XXX	500	T200	0.3	0.3	0.3	0.3	0.3

RATIO	1:5	2.5:5	5:5	7.5:5	10:5	15:5	20:5	25:5	30:5	40:5	50:5
SUFFIX	001	0025	005	0075	010	015	020	025	030	040	050

* * *
* 1/4–20 stud terminals



Model 200X

ANSI Metering Class 0.3 B1.8

The Model 200X is an auxiliary transformer for use in the secondary of main current transformers to change the ratio for metering and relaying applications.

Since the Model 200X is used in the secondary of another current transformer it has no voltage rating. It is given a 2500 volt 60 Hz high potential test. It is designed to be used on circuits not to exceed 600 volts to ground or between windings.

CATALOG NUMBER	CURRENT RATIO	CATALOG NUMBER	CURRENT RATIO
200X0100	5:0.100	200X6250	5:6.250
200X0200	5:0.200	200X7500	5:7.500
200X0250	5:0.250	200X8000	5:8.000
200X0500	5:0.500	200X10000	5:10.000
200X0625	5:0.625	200X12500	5:12.500
200X1000	5:1.000	200X15000	5:15.000
200X1250	5:1.250	200X1500–5	1,500:5
200X1667	5:1.667	200X1667–5	1,667:5
200X2000	5:2.000	200X2500–5	2,500:5
200X2395	5:2.395	200X2875–5	2,875:5
200X2500	5:2.500	200X7500–5	7,500:5
200X2890	5:2.890	200X10500–5	10,500:5
200X3000	5:3.000	200X0500–1	0.500:1
200X3330	5:3.330	200X0923–1	0.923:1
200X3750	5:3.750	200X0400–10	0.400:10
200X4000	5:4.000		
200X5000	5:5.000		
200X5330	5:5.330		

AUXILIARY TRANSFORMER

Model 82X



Manufactured to meet the requirements of ANSI/IEEE C57.13.
Classified by U.L. in accordance with IEC 44-1

APPLICATIONS:

This auxiliary transformer can be used in two ways:
(1) As a voltage transformer at a maximum of 0.8 Volts per turn.
(2) As a current transformer.

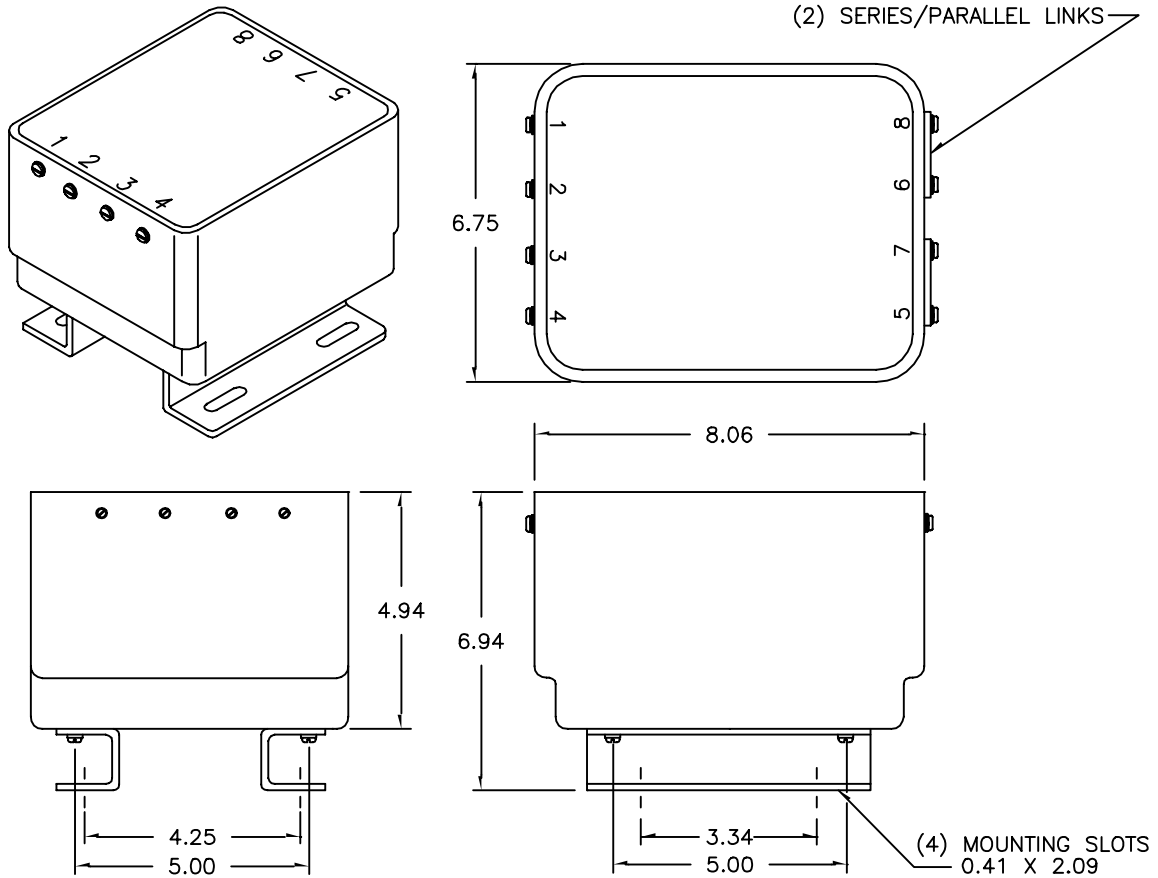
FREQUENCY:

60 Hz as V.T.
25-60 Hz as C.T.

ACCURACY:

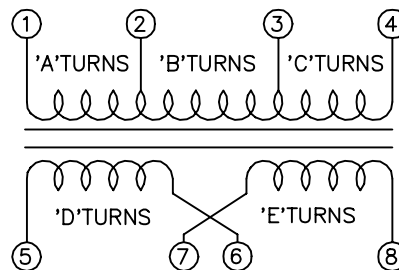
0.3 thru B0.5, 0.6 thru B1.8.
@ 800 ampere-turns
T50 OR T100 depending on ratio.

- Terminals are 1/4-20 brass screws with one flatwasher and lockwasher (8 places).
- Alternate base arrangement: channels can be removed to provide mounting on 5" X 5" centers to 1/4-20 inserts.
- The transformer winding is vacuum encapsulated in a polyurethane resin.
- When used as an auxiliary current transformer, the turns can be selected to effect a ratio change by inserting an input winding in series with the secondary winding of a line current transformer.
- Approximate weight 27 lbs.



The table below shows some commonly used tap arrangements. Other taps can be provided to suit particular applications within the scope of APPLICATIONS (1) AND (2).

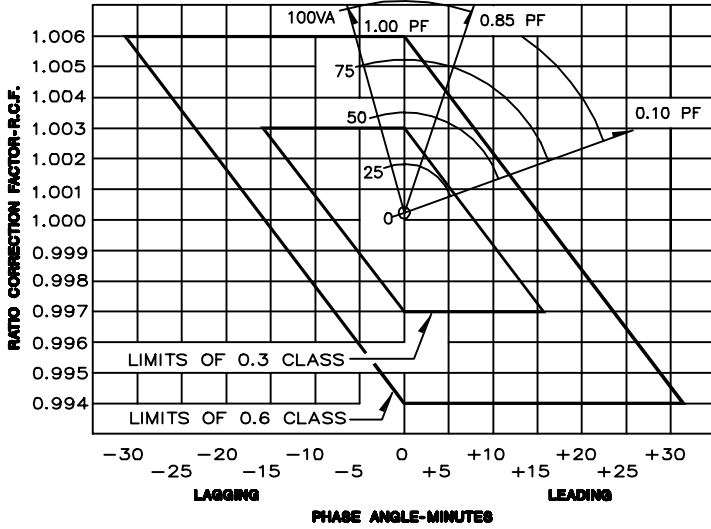
TERMINALS 1,2,3,4 DASH NO.	TURNS			TERMINALS 5,6 & 7,8 DASH NO.	TURNS	
	A	B	C		D	E
P1	72	18	30	S1	25	25
P2	125	25	50	S2	36	36
P3	144	36	60	S3	72	72
P4	180	7	29	S4	90	90
				S5	108	108
				S6	180	180
				S7	360	360
				S8	720	720



Transformers with two windings will use terminal positions 1-4 and 5-8.
Typical ratios will be 5:5A, 5:10A, 5:15A, 5:20A and 10:5A, 15:5A, 20:5A.
Transformers labeled with specific ratios will have the primary terminals marked H1, H2 and secondary terminals marked X1, X2.
A typical part number would be; 82X-P3-S7.

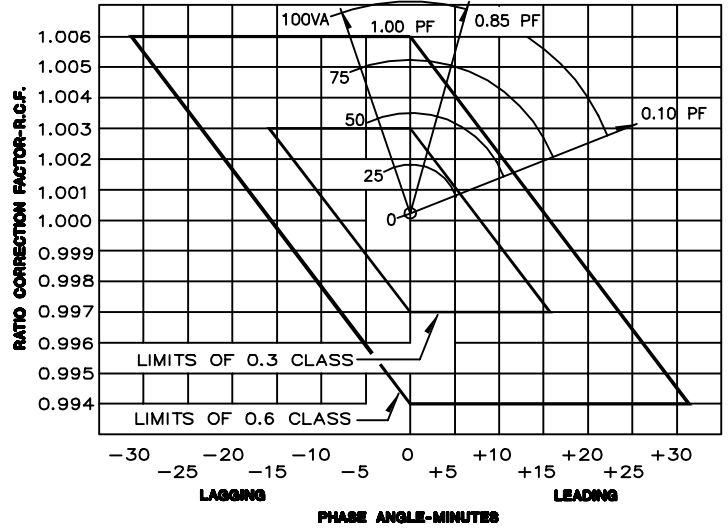
82X-P4-S5

**VOLTAGE TRANSFORMER CIRCLE DIAGRAM
FOR A 120:69.282V SETUP
THIS GRAPH IS DRAWN FOR A 0.6 P.F. SYSTEM LOAD**



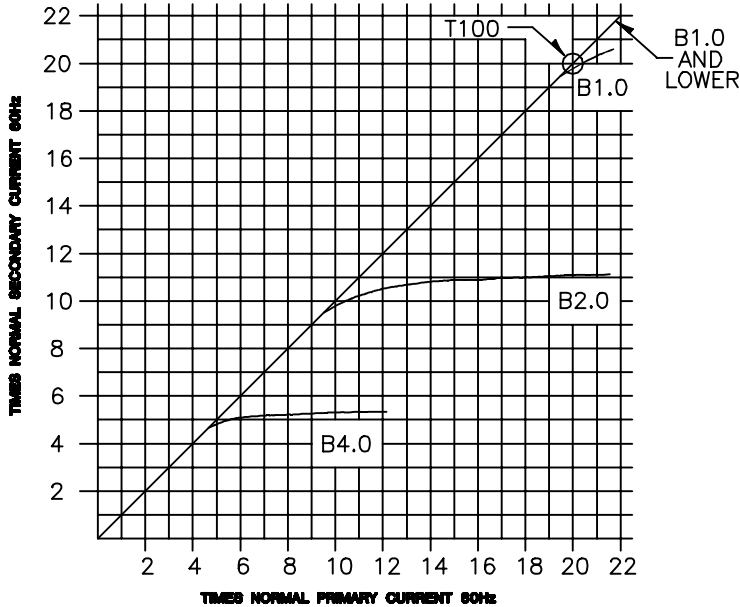
INPUT TERMINALS; 1 & 3
OUTPUT TERMINALS; 5 CONNECTED TO 7, IN PARALLEL
AND 6 CONNECTED TO 8, IN PARALLEL

**VOLTAGE TRANSFORMER CIRCLE DIAGRAM
FOR A 120:120V SETUP
THIS GRAPH IS DRAWN FOR A 0.6 P.F. SYSTEM LOAD**



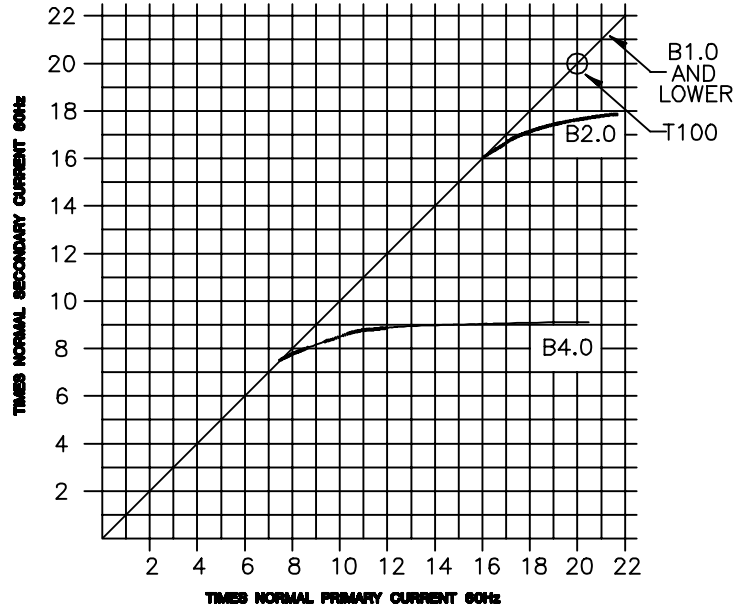
INPUT TERMINALS; 1 & 4
OUTPUT TERMINALS; 5 & 8
WITH 6 CONNECTED TO 7, IN SERIES

TYPICAL OVERCURRENT RATIO CURVE AT 60Hz



OUTPUT TERMINALS; 5 & 6 CONNECTED
IN PARALLEL WITH 7 & 8

TYPICAL OVERCURRENT RATIO CURVE AT 60Hz



OUTPUT TERMINALS; 5 & 6 CONNECTED
IN SERIES WITH 7 & 8