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600V Current Transformers
Non-ANSI Rated Window Type

600V Current Transformers
ANSI Rated Window Type

600V Voltage Transformers

600V Current Transformers
ANSI Rated Bushing Type

MV Voltage Transformers









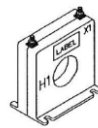





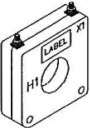
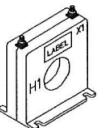

MV Control Power Transformers

Technical Data

CURRENT TRANSFORMERS

For Metering and Instrumentation

600V Current Transformers
Non-ANSI Rated Window Type

<p>WINDOW SIZES 0.56"</p>	 13			
<p>WINDOW SIZES 0.64"</p>	 1A			
<p>WINDOW SIZES 0.94"</p>	 15 SFT			
<p>WINDOW SIZES 1.00", 1.05", 1.13"</p>	 2SHT	 2SFT	 2RL	 2DRL
<p>WINDOW SIZES 1.56"</p>	 5SHT	 5SFT	 5RL	
<p>WINDOW SIZES 1.56"</p>	 5DRL			
<p>WINDOW SIZES 2.06"</p>	 56SHT	 56SFT	 56RL	
<p>WINDOW SIZES 2.06"</p>	 6SHT	 6SFT	 6RL	

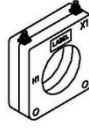
CURRENT TRANSFORMERS

For Metering and Instrumentation

*600V Current Transformers
Non-ANSI Rated Window Type*

WINDOW SIZES

2.50"



7SHT



7SFT

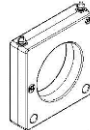


7RL

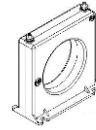
MODEL 7

WINDOW SIZES

3.00"



76SHT



76SFT



76RL



76RT

MODEL 76



Current Transformer

Model 13

APPLICATION:

For current to voltage conversion by use of a load resistor

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

0.56"

APPROXIMATE WEIGHT:

0.1 – 0.2 lbs.

CONTINUOUS THERMAL CURRENT RATING FACTOR:

200A at 30°c amb., 120A at 55°c amb.

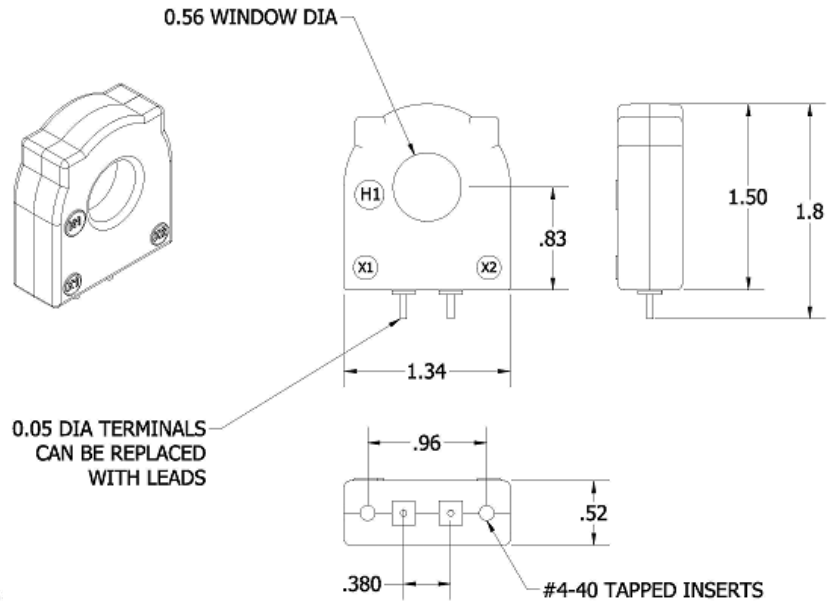
CONNECTIONS:

This lightweight, miniature current transformer is suitable for direct mounting on printed circuit boards. Model 13 is provided with standard hexagon nuts to secure the transformer to the board, so that the assembly can withstand vibration and shock while maintaining electrical integrity. The graph below illustrates the voltage capacity and over the ranges shown, will maintain a +/-3% linearity.

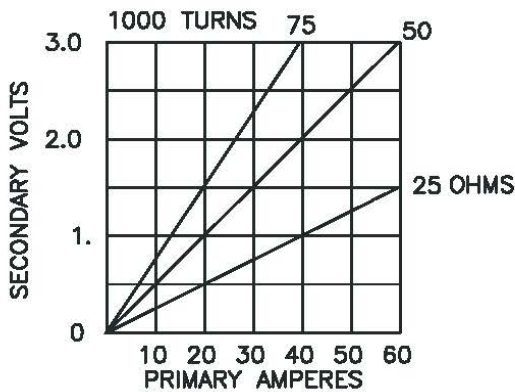


Model	13
Window Size	0.56
Width	1.33
Height	1.80
Depth	0.95

CERTIFICATIONS:



TYPICAL PERFORMANCE CHARACTERISTICS



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 1A

APPLICATION:

With ammeters, energy management systems and instrumentation

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

0.64"

APPROXIMATE WEIGHT:

0.42 lbs.

CONNECTIONS:

-Flexible Leads are UL 1015 105°C, CSA approved

#16AWG, 24" long

-Non-standard length to be specified

-1 Amp, and other secondary currents available upon request



Model	1A
Window Size	0.64
Width	1.99
Height	1.99
Depth	1.25

CERTIFICATIONS:



E228202

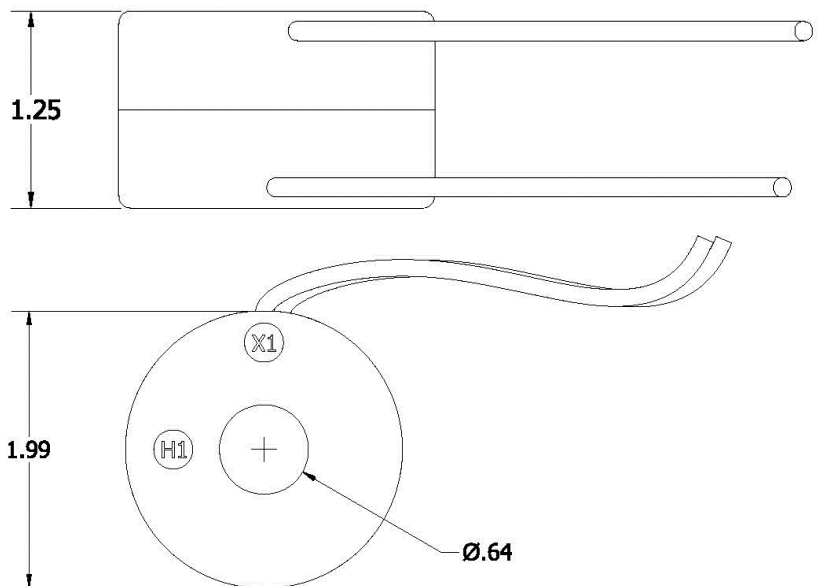
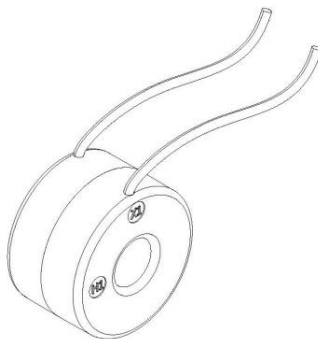


223647



MODEL 1A
Window Diameter 0.64"
Approximate weight: 0.42 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
1A-500	50:5	+ 2%	1
1A-600	60:5	+ 1%	2
1A-750	75:5	+ 1%	2
1A-800	80:5	+ 1%	2
1A-101	100:5	+ 1%	2.5
1A-121	120:5	+ 1%	3
1A-1250	125:5	+ 1%	3
1A-151	150:5	+ 1%	4
1A-201	200:5	+ 1%	5
1A-251	250:5	+ 1%	7.5



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Current Transformer

Model 15

CERTIFICATIONS:



Quality Management



APPLICATION:

With ammeters, energy management systems and instrumentation

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

0.94"

APPROXIMATE WEIGHT:

0.9 lbs.

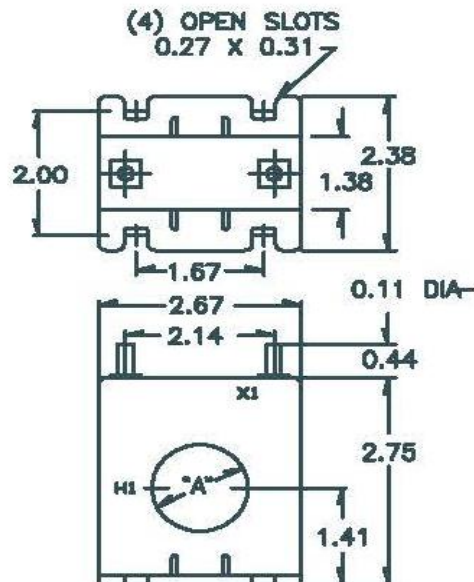
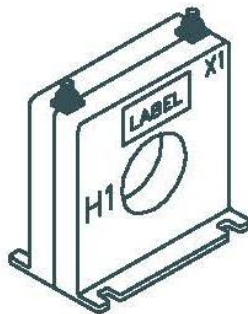
CONNECTIONS:

- Non-standard lead length can be specified
- Flexible leads are UL 1015 105° C CSA approved, #16 AWG, 24" long
- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut

Model	15SFT
Window Size	0.94
Width	2.67
Height	2.75
Depth	1.38

MODEL 15
Window Diameter 0.94"
Approximate weight: 0.9 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
15SFT-500	50:5	± 1.5%	2
15SFT-600	60:5	± 1.5%	2
15SFT-750	75:5	± 1.5%	2.5
15SFT-800	80:5	± 1.0%	2
15SFT-101	100:5	± 1.0%	2
15SFT-121	120:5	± 1.0%	3
15SFT-1250	125:5	± 1.0%	4
15SFT-151	150:5	± 1.0%	5
15SFT-1750	175:5	± 1.0%	10
15SFT-201	200:5	± 1.0%	12.5





Current Transformer

Model 2

APPLICATION:

Generally for Ammeter use only

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW:

1.00", 1.05", 1.13"

APPROXIMATE WEIGHT:

0.5 lbs.

CONNECTIONS:

-Flexible Leads are UL 1015 105°C, CSA approved #16 AWG, 24" long

-Non-standard length to be specified

-Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut

-SHT and SFT case styles also available as SHL or SFL with Leads

-Mounting bracket for Model 2SHT part 59-0217



2SHT



2SFT



2RL



2DRL

CERTIFICATIONS:



Model	2SHT	2SFT	2RL	2DRL
Window Size	1.13	1.13	1.05	1.00
Width	2.40	2.40	2.46	2.42
Height	2.71	2.68	2.46	2.42
Depth	0.95	2.00	1.05	1.75

MODEL 2

Window Diameter 1.00", 1.05", 1.13"

Approximate weight: 0.5 lbs.

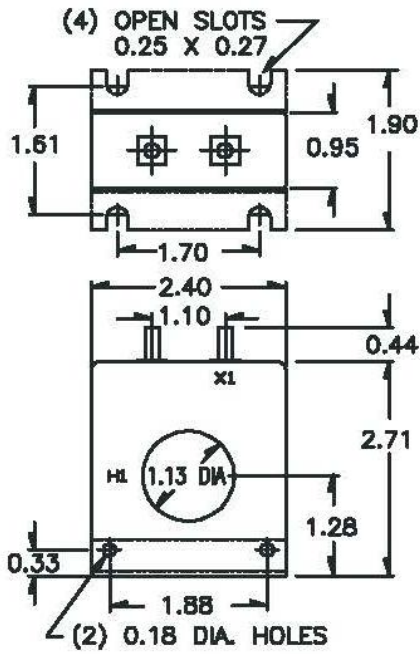
CATALOG NUMBER	CURRENT RATIO	MODELS 2SFT, 2SHT, 2RL		MODEL 2DRL	
		ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
2**-250	25:5	-	-	± 5%	1
2**-500	50:5	± 4%	1	± 2%	1.5
2**-600	60:5	± 3%	2	± 2%	2
2**-750	75:5	± 3%	2	± 2%	3
2**-800	80:5	± 2%	2	± 2%	4
2**-101	100:5	± 1%	2	± 1%	5
2**-121	120:5	± 1%	2.5	± 1%	5
2**-1250	125:5	± 1%	2.5	± 1%	5
2**-151	150:5	± 1%	4	± 1%	8
2**-181	180:5	± 1%	4	± 1%	10
2**-201	200:5	± 1%	4	± 1%	10
2**-251	250:5	± 1%	6	± 1%	12.5
2**301	300:5	± 1%	8	± 1%	15
2**-331	330:5	± 1.2%	10	± 1%	17.5

NOTE: When ordering, Prefix Cat. No. With model designation required, i.e. 2SFT-301, 2RL-301, or 2SHT-301 or 2DRL-301

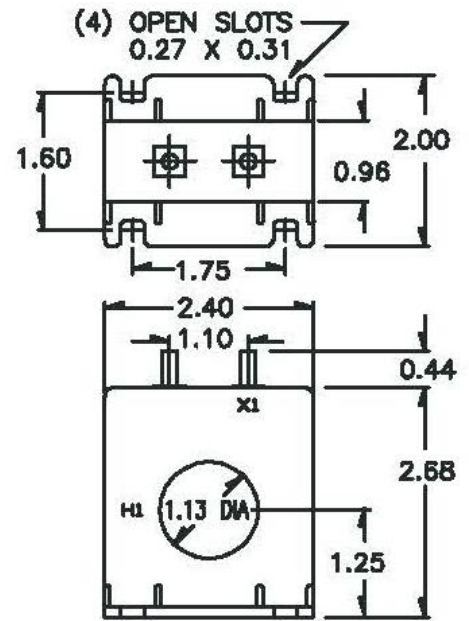
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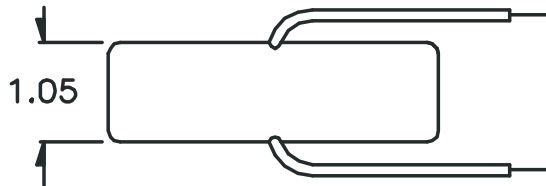
2SHT



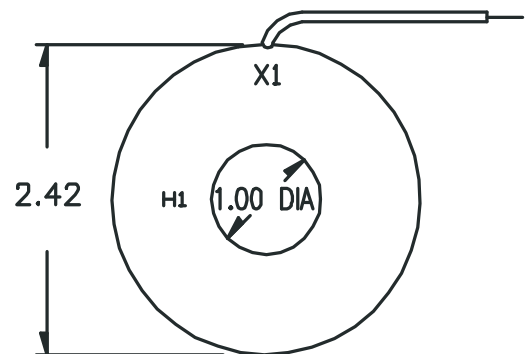
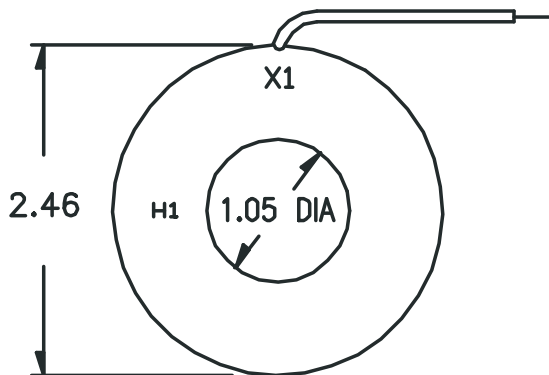
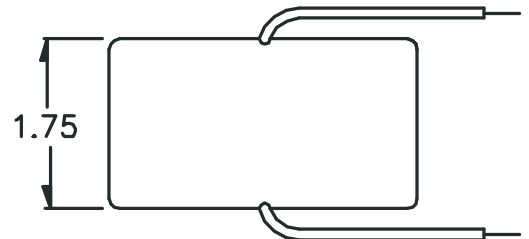
2SFT



2RL



2DRL





Current Transformer

Model 5

APPLICATION:

With ammeters, wattmeters and cross current compensation

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

1.56"

APPROXIMATE WEIGHT:

1.0 lbs.

CONNECTIONS:

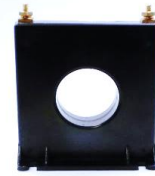
- Flexible Leads are UL 1015 105°C, CSA approved #16AWG, 24" long
- Non-standard length to be specified
- Terminals are brass studs No. 8-32 UNC with one flat washer, lock washer, and regular nut
- SHT and SFT case style also available as SHL and SFL with leads
- Mounting bracket Part # 59-0218



5RL



5SHT



5SFT

CERTIFICATIONS:



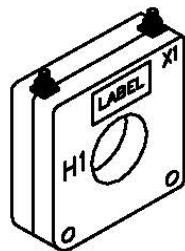
Model	5SHT	5SFT	5RL
Window Size	1.56	1.56	1.56
Width	3.53	3.53	3.56
Height	3.65	3.78	3.56
Depth	1.09	1.09	1.10

MODEL 5

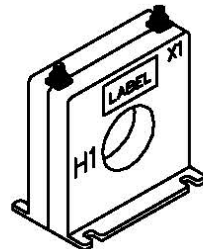
Window Diameter 1.56"
Approximate weight: 1.0 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
5**-500	50:5	± 2%	1
5**-750	75:5	± 2%	1.5
5**-101	100:5	± 2%	2
5**-151	150:5	± 1%	5
5**-201	200:5	+ 1%	5
5**-251	250:5	+ 1%	10
5**-301	300:5	+ 1%	12.5
5**-401	400:5	+ 1%	12.5
5**-501	500:5	+ 1%	20
5**-601	600:5	+ 1%	25
5**-751	750:5	+ 1%	25
5**-801	800:5	+ 1%	25
5**-102	1000:5	+ 1%	25
5**-122	1200:5	+ 1%	30

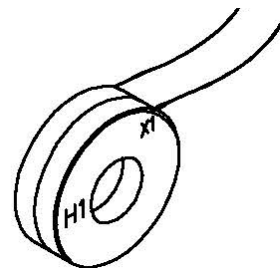
NOTE: WHEN ORDERING, PREFIX CAT NO. WITH MODEL DESIGNATION REQUIRED, I.E. 5SFT-500, 5RL-500, ETC.



5SHT



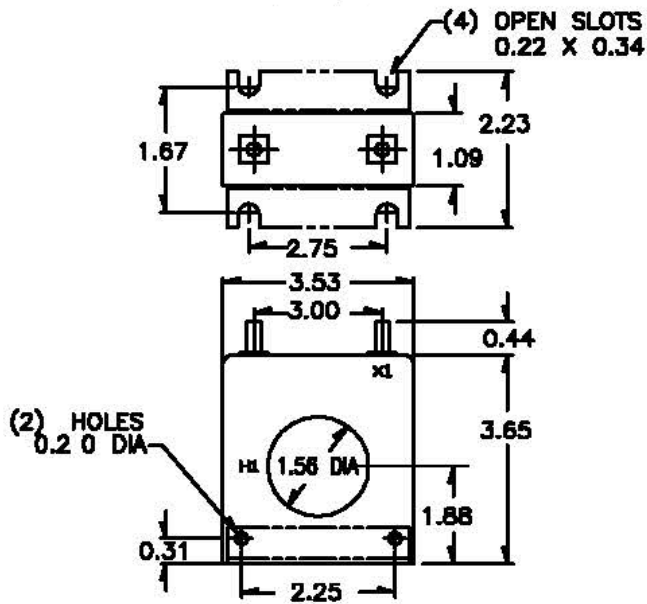
5SFT



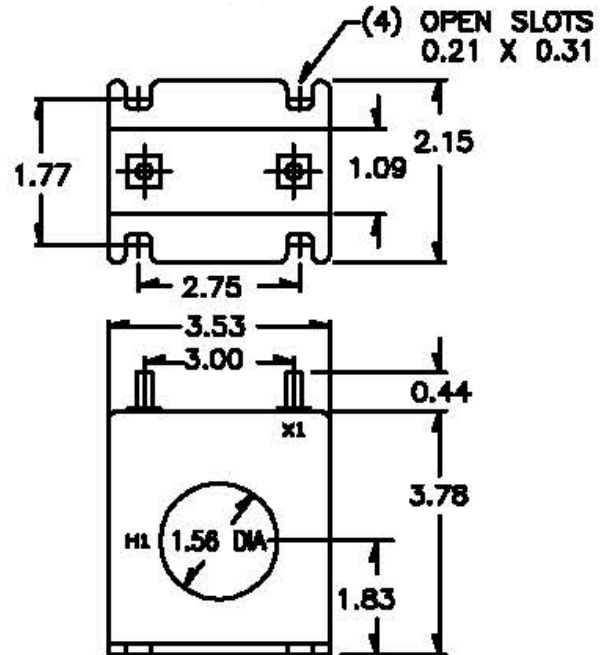
5RL



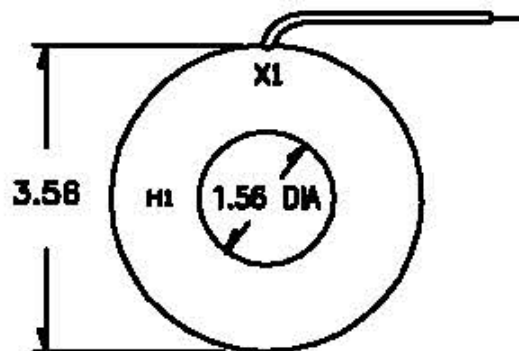
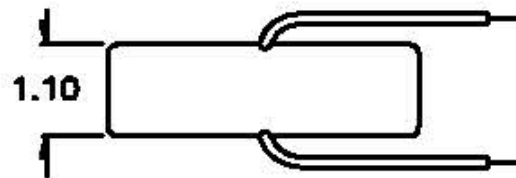
5SHT



5SFT



5RL





Current Transformer

Model 5DRL

APPLICATION:

With ammeters, wattmeters and cross current compensation

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

1.56"

APPROXIMATE WEIGHT:

2.0 lbs.

CONNECTIONS:

- Flexible Leads are UL 1015 105°C, CSA approved #16AWG, 24" long
- Non-standard length to be specified



5DRL

Model	5DRL
Window Size	1.56
Width	3.63
Height	3.63
Depth	2.06

CERTIFICATIONS:



E228202



223647

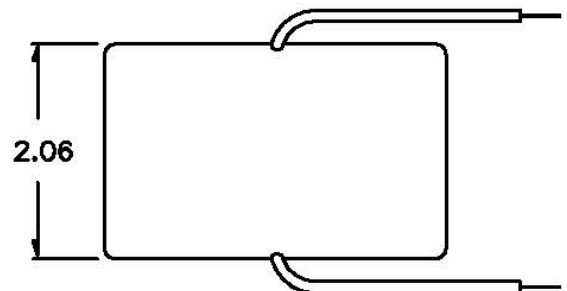
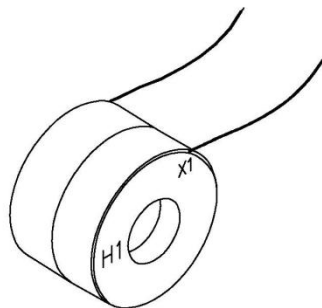
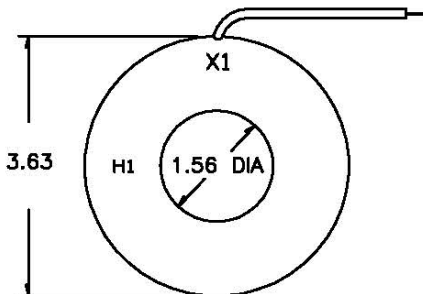


ISO 9001 Registered

Quality Management

MODEL 5DRL
Window Diameter 1.56"
Approximate weight: 2.0 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 Hz	BURDEN VA AT 60 Hz
5DRL-500	50:5	+ 2%	2.5
5DRL-600	60:5	+ 1%	2.5
5DRL-750	75:5	+ 1%	3.5
5DRL-101	100:5	+ 1%	5
5DRL-151	150:5	+ 1%	10
5DRL-201	200:5	+ 1%	12.5
5DRL-251	250:5	+ 1%	20
5DRL-301	300:5	+ 1%	20
5DRL-401	400:5	+ 1%	40
5DRL-501	500:5	+ 1%	50
5DRL-601	600:5	+ 1%	60
5DRL-751	750:5	+ 1%	60
5DRL-801	800:5	+ 1%	60
5DRL-102	1000:5	+ 1%	75
5DRL-122	1200:5	+ 1%	90



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Current Transformer

Model 56

APPLICATION:

With ammeters, wattmeters and cross current compensation

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

2.06"

APPROXIMATE WEIGHT:

0.6 lbs.

CONNECTIONS:

-Flexible Leads are UL 1015 105°C, CSA approved

#16AWG, 24" long

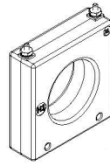
-Non-standard length to be specified

-Terminals are brass studs No. 8-32 UNC with one flat washer, lock washer, and regular nut

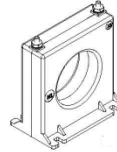
-RBT and RT case styles also available and SHT and SFT as SHL and SFL with leads



56RL



56SHT



56SFT

Model	56SHT	56SFT	56RL
Window Size	2.06	2.06	2.06
Width	3.50	3.50	3.50
Height	3.63	3.63	3.50
Depth	1.10	1.10	1.09

CERTIFICATIONS:



E228202



223647



ISO 9001 Registered

Quality Management

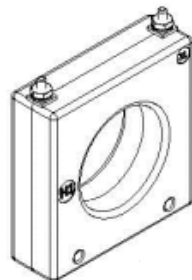
MODEL 56

Window Diameter 2.06"

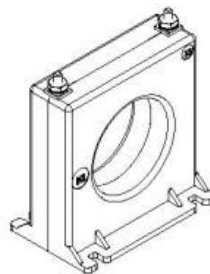
Approximate weight: 0.6 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
56**-500	50:5	± 3%	0.5
56**-750	75:5	± 1%	0.5
56**-101	100:5	± 1%	1
56**-151	150:5	± 1%	2.5
56**-201	200:5	+ 1%	4
56**-251	250:5	+ 1%	6
56**-301	300:5	+ 1%	7.5
56**-401	400:5	+ 1%	10
56**-501	500:5	+ 1%	12.5
56**-601	600:5	+ 1%	15
56**-751	750:5	+ 1%	7
56**-801	800:5	+ 1%	8
56**-102	1000:5	+ 1%	10
56**-122	1200:5	+ 1%	12.5

NOTE: WHEN ORDERING, PREFIX CAT NO. WITH MODEL DESIGNATION REQUIRED, I.E. 56SFT-500, 56RL-500, ETC.



56SHT



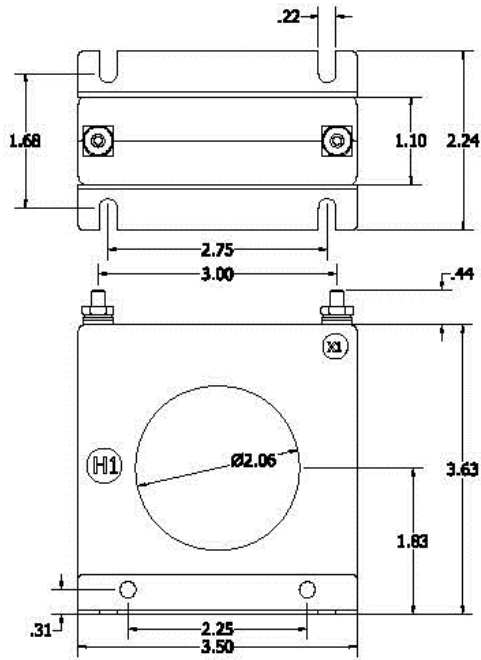
56SFT



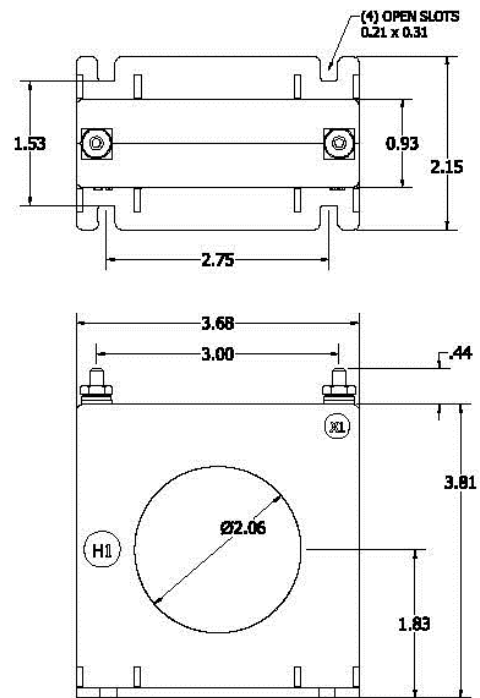
56RL



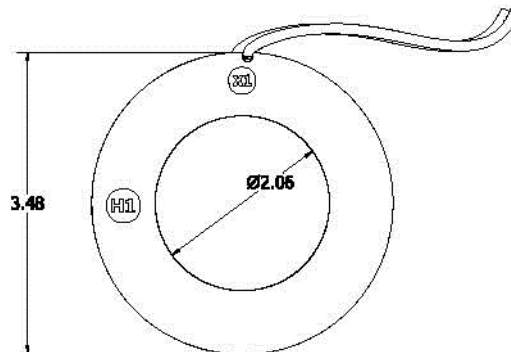
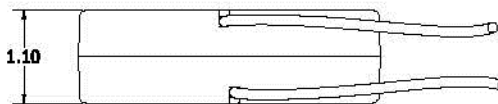
56SHT



56SFT



56RL





Current Transformer

Model 6

APPLICATION:

With ammeters, wattmeters and cross current compensation

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

2.06"

APPROXIMATE WEIGHT:

1.2 lbs.

CONNECTIONS:

- Flexible leads are UL 1015 105 C, CSA approved #16 AWG, 24" long
- Non-standard length to be specified.
- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- Mounting bracket 59-0223
- SFT and SHT case styles also available as SFL and SHL with leads
- Mounting kit – 59-0223



Model	6SHT	6SFT	6RL
Window Size	2.06	2.06	2.06
Width	4.08	4.12	4.08
Height	4.22	4.22	4.08
Depth	1.10	1.10	1.10

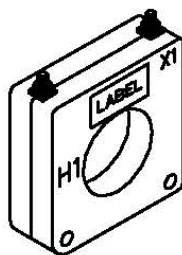
CERTIFICATIONS:



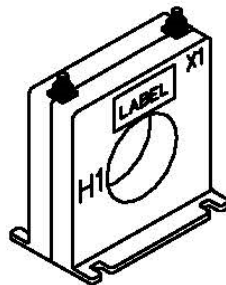
MODEL 6
Window Diameter 2.06"
Approximate weight: 1.2 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
6**-101	100:5	+ 2%	2
6**-151	150:5	+ 1%	5
6**-201	200:5	+ 1%	5
6**-251	250:5	+ 1%	7.5
6**-301	300:5	+ 1%	12.5
6**-401	400:5	+ 1%	15
6**-501	500:5	+ 1%	25
6**-601	600:5	+ 1%	30
6**-751	750:5	+ 1%	25
6**-801	800:5	+ 1%	25
6**-102	1000:5	+ 1%	35
6**-122	1200:5	+ 1%	40
6**-152	1500:5	+ 1%	50

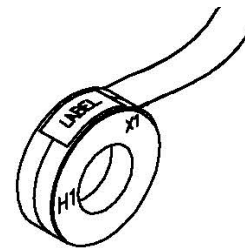
Note: When ordering, prefix Cat No. with model designation, i.e. 6SHT-201, 6RL-301 etc.



6SHT

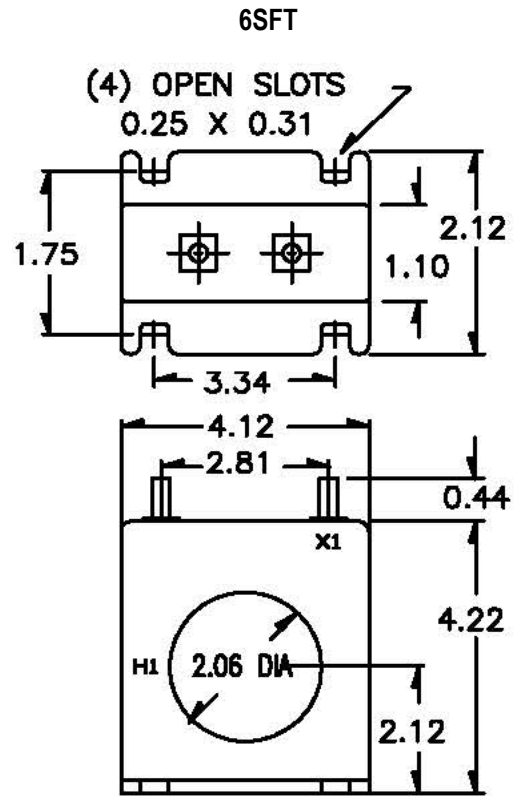
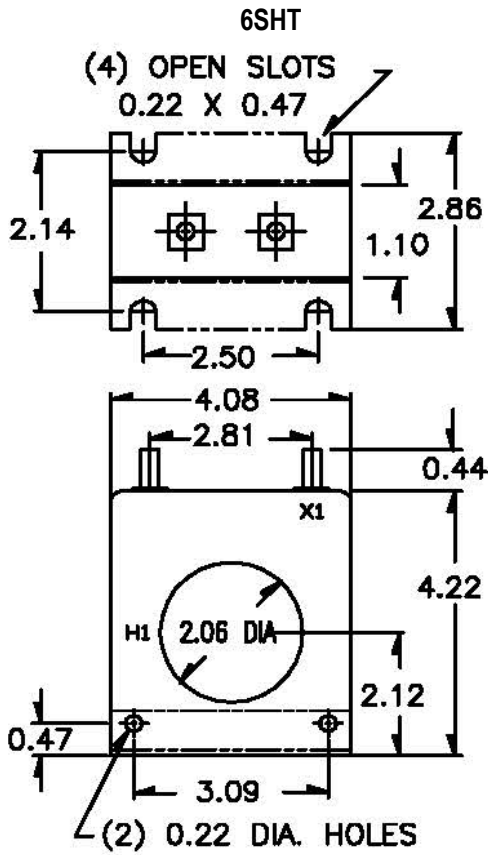


6SFT

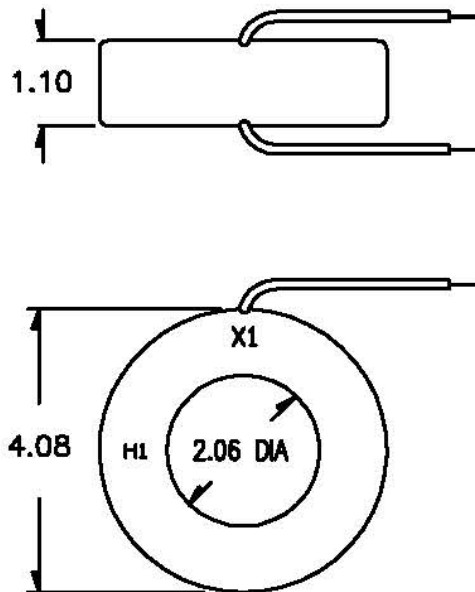


6RL

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



6RL





Current Transformer

Model 7

APPLICATION:

With ammeters, wattmeters and cross current compensation.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

2.50"

APPROXIMATE WEIGHT:

1.5 lbs.

CONNECTIONS:

-Flexible leads are UL 1015 105 C, CSA approved #16 AWG, 24" long

-Non-standard length to be specified

-Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut

-SFT and SHT case styles also available as SFL and SHL with leads

-Mounting kit 59-0219



Model	7SHT	7SFT	7RL
Window Size	2.50	2.50	2.50
Width	4.56	4.56	4.58
Height	4.85	4.85	4.58
Depth	1.10	1.08	1.10

CERTIFICATIONS:



E228202



223647



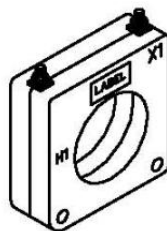
ISO 9001
Registered

Quality
Management

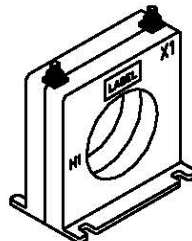
MODEL 7
Window Diameter 2.50"
Approximate weight: 1.5 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
7*-101	100:5	+ 2%	2.5
7*-151	150:5	+ 1%	5
7*-201	200:5	+ 1%	5
7*-251	250:5	+ 1%	5
7*-301	300:5	+ 1%	12.5
7*-401	400:5	+ 1%	15
7*-501	500:5	+ 1%	25
7*-601	600:5	+ 1%	30
7*-751	750:5	+ 1%	30
7*-801	800:5	+ 1%	35
7*-102	1000:5	+ 1%	35
7*-122	1200:5	+ 1%	35
7*-152	1500:5	+ 1%	40
7*-162	1600:5	+ 1%	45

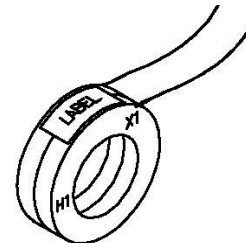
Note: When ordering, prefix Cat No. with model designation required, i.e. 7SFT-500, 7RL-500, etc.



7SHT



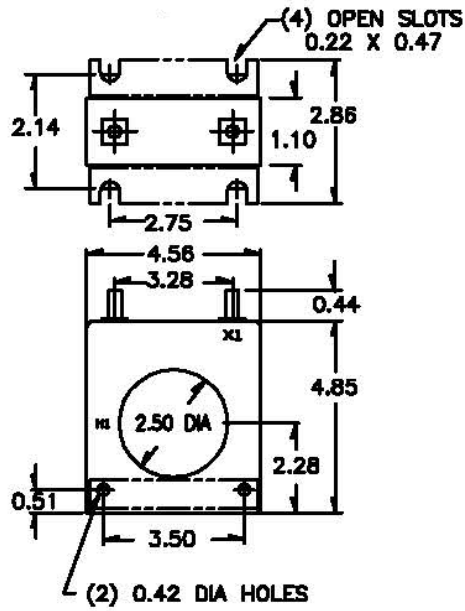
7SFT



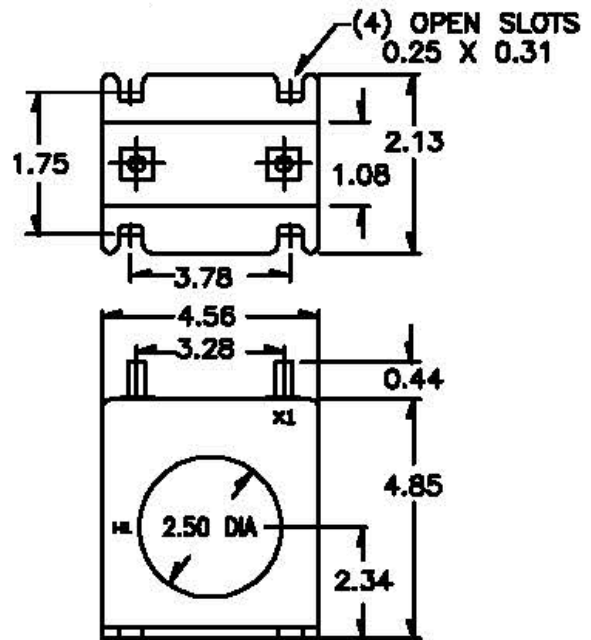
7RL



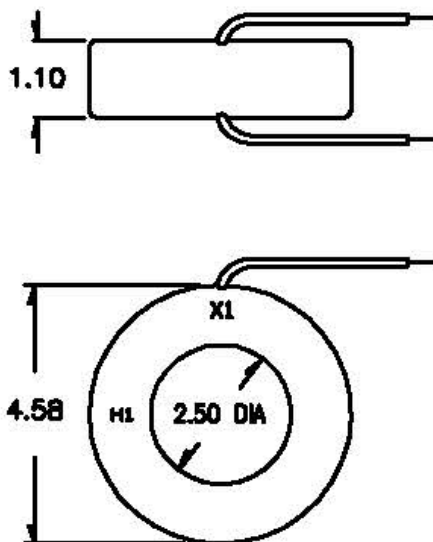
7SHT



7SFT



7RL





Current Transformer

Model 76

APPLICATION:

With ammeters, wattmeters and cross current compensation.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

3.00"

APPROXIMATE WEIGHT:

1.5 lbs.

CONNECTIONS:

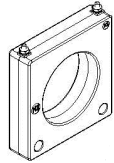
- Flexible leads are UL 1015 105 C, CSA approved #16 AWG, 24" long
- Non-standard length to be specified
- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- RBT and RT case styles also available and SFT and SHT as SFL and SHL with leads



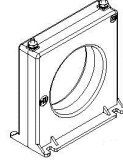
76RL



76RT



76SHT



76SFT

CERTIFICATIONS:



E228202



223647



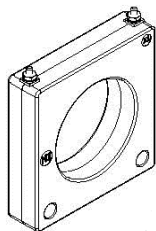
Quality Management

Model	76SHT	76SFT	76RL	76RT
Window Size	3.00	3.00	3.00	3.00
Width	4.54	4.54	4.50	4.50
Height	4.68	4.68	4.50	4.64
Depth	1.12	1.12	1.13	1.10

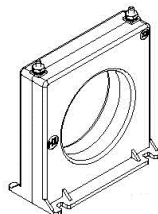
MODEL 76
Window Diameter 3.00"
Approximate weight: 1.5 lbs.

CATALOG NUMBER	CURRENT RATIO	ACCURACY AT 60 HZ	BURDEN VA AT 60 HZ
76**-201	200:5	+ 1%	5
76**-251	250:5	+ 1%	5
76**-301	300:5	+ 1%	6
76**-401	400:5	+ 1%	10
76**-501	500:5	+ 1%	10
76**-601	600:5	+ 1%	10
76**-751	750:5	+ 1%	10
76**-801	800:5	+ 1%	12.5
76**-102	1000:5	+ 1%	10
76**-122	1200:5	+ 1%	10
76**-152	1500:5	+ 1%	12.5
76**-162	1600:5	+ 1%	12.5
76**-202	2000:5	+ 1%	15

Note: When ordering, prefix Cat No. with model designation required, i.e. 76SFT-201, 76RL-201, etc.



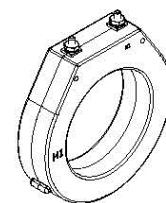
76SHT



76SFT



76RL

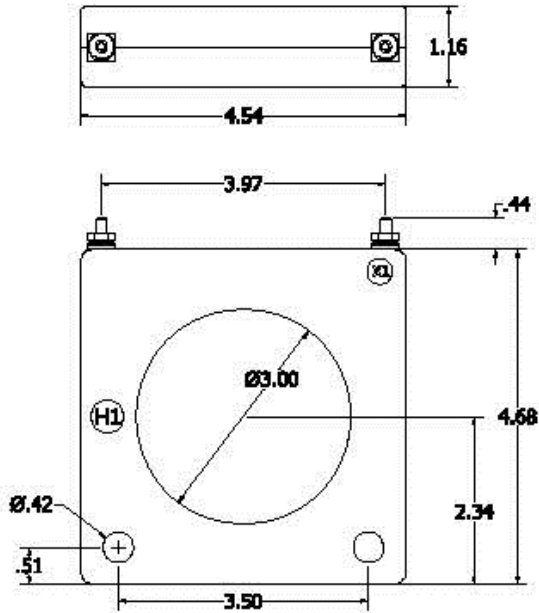


76RT

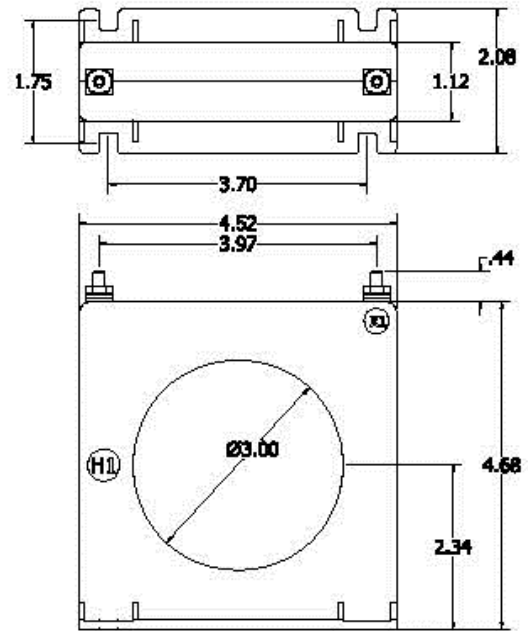
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



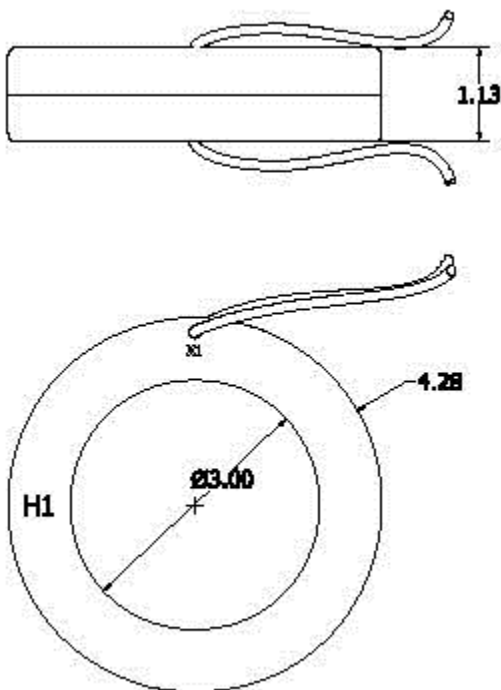
76SHT



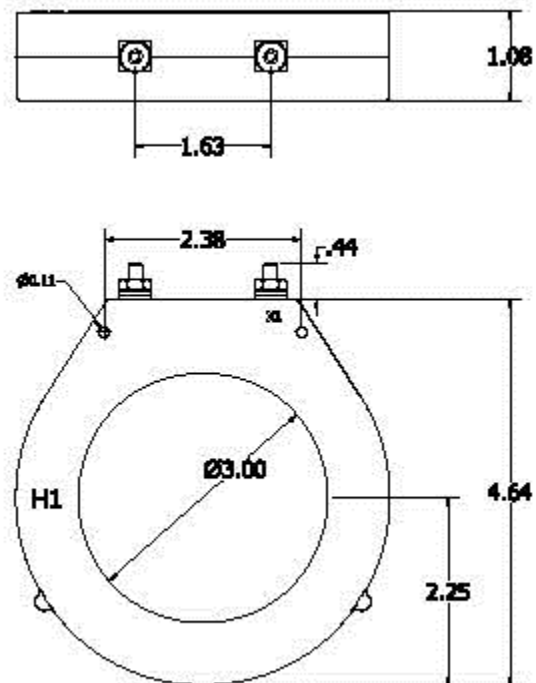
76SFT



76RL



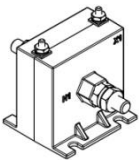
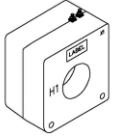
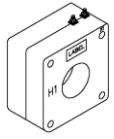
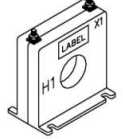
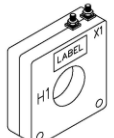
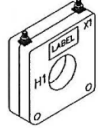
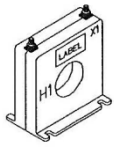

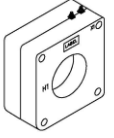
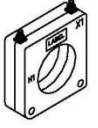


76RT



CURRENT TRANSFORMERS

For Metering and Instrumentation

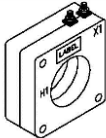



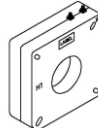

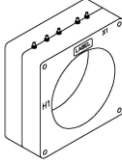


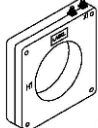

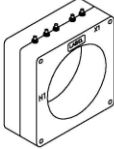
600V Current Transformers
ANSI Rated Window Type

<p>WINDOW SIZES Wound Primary</p> <p>MODEL 189</p>			
<p>WINDOW SIZES 1.25", 1.63", 2.00", 2.50", 3.13"</p> <p>MODELS 21, 22, 23, 24, 25</p>			
<p>WINDOW SIZES 1.50", 2.25", 3.00", 3.38", 3.75"</p> <p>MODEL 296, 297, 298, 299, 300</p>			
<p>WINDOW SIZES 1.56"</p> <p>MODEL 10</p>	 <p>10SFT</p>		
<p>WINDOW SIZES 1.56", 2.00", 2.50"</p> <p>MODEL 64, 65, 66</p>			
<p>WINDOW SIZES 2.06"</p> <p>MODEL 6A</p>	 <p>6ASHT</p>	 <p>6ASFT</p>	 <p>6ARL</p>
<p>WINDOW SIZES 2.25", 2.75", 3.25", 4.00", 4.62"</p> <p>MODEL 112, 113, 114, 115, 117</p>			
<p>WINDOW SIZES 2.50"</p> <p>MODEL 7A</p>	 <p>7ASHT</p>	 <p>7ASFT</p>	 <p>7ARL</p>

CURRENT TRANSFORMERS

For Metering and Instrumentation

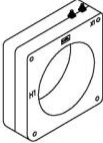
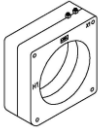
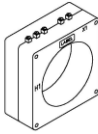
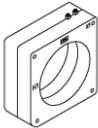
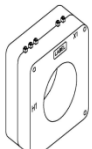
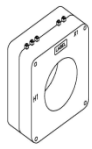
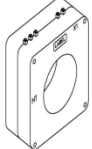
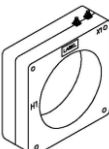
600V Current Transformers
ANSI Rated Window Type

WINDOW SIZES 2.50"		
MODEL 180	180SHT	180RL
WINDOW SIZES 3.25"		
MODEL 8	8SHT	8RL
WINDOW SIZES 4.00"		
MODEL 100		
WINDOW SIZES 4.00"		
MODEL 110		
WINDOW SIZES 4.00"		
MODEL 115MR		
WINDOW SIZES 4.25"		
MODEL 19	19SHT	19RL
WINDOW SIZES 4.25"		
MODEL 170	170SHT	170RL
WINDOW SIZES 4.62"		
MODELS 117MR		

CURRENT TRANSFORMERS

For Metering and Instrumentation

600V Current Transformers
ANSI Rated Window Type

WINDOW SIZES 5.75"	
MODEL 120	
WINDOW SIZES 5.75"	
MODEL 135	
WINDOW SIZES 5.75"	
MODEL 135MR	
WINDOW SIZES 6.00"	
MODEL 144	
WINDOW SIZES 6.00"	
MODEL 144MR	
WINDOW SIZES 6.00"	
MODEL 145	
WINDOW SIZES 6.00"	
MODEL 145MR	
WINDOW SIZES 6.31"	
MODEL 125	

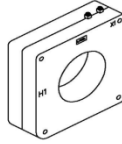
CURRENT TRANSFORMERS

For Metering and Instrumentation

600V Current Transformers
ANSI Rated Window Type

WINDOW SIZES

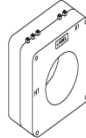
7.25"



MODEL 142

WINDOW SIZES

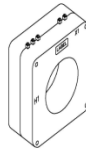
7.25"



MODEL 142MR

WINDOW SIZES

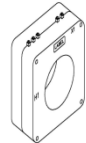
7.31"



MODEL 143

WINDOW SIZES

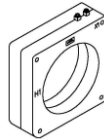
7.31"



MODEL 143MR

WINDOW SIZES

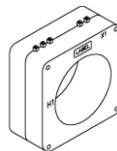
8.13"



MODEL 140

WINDOW SIZES

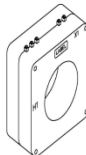
8.13"



MODEL 140MR

WINDOW SIZES

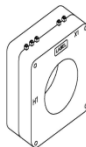
8.13"



MODEL 141

WINDOW SIZES

8.13"



MODEL 141MR



Current Transformer

Model 189

APPLICATION:

Ammeters and wattmeters

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

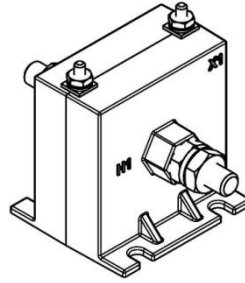
Wound Primary

APPROXIMATE WEIGHT:

0.75 lbs.

CONNECTIONS:

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)



CERTIFICATIONS:



E228202



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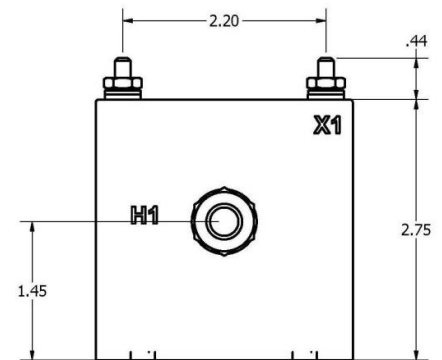
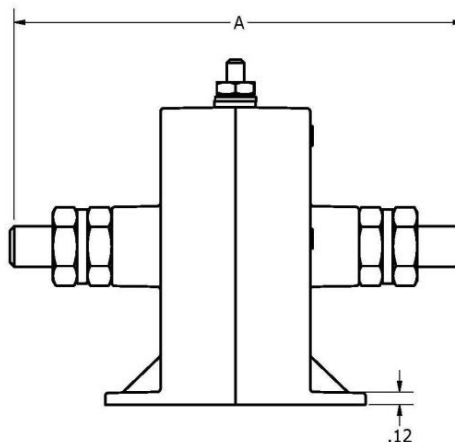
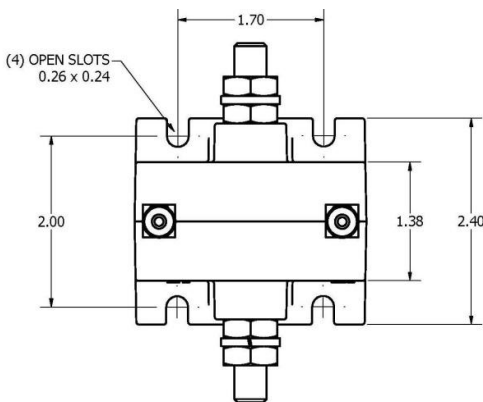
ISO 9001
Registered

Quality
Management

Model	189
Window Size	Wound Primary
Width	2.70
Height	2.75
Depth	2.40

MODEL 189
Wound Primary
Approximate weight: 0.75 lbs.

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



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 21, 22, 23, 24, 25

APPLICATION:

Relaying and Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

1.25", 1.63", 2.00", 2.50", 3.13"

APPROXIMATE WEIGHT:

10, 9.0, 8.5, 6.5, 5.5 lbs.

CONNECTIONS:

-Terminals are brass studs No. 8-32

UNC with one flat washer,

lockwasher, and regular nut

-Order Mounting bracket kit separately

59-0224



Model	21	22	23	24	25
Window Size	1.25	1.63	2.00	2.50	3.13
Width	4.63	4.63	4.63	4.63	4.63
Height	5.10	5.10	5.10	5.10	5.10
Depth	3.00	3.00	3.00	3.00	3.00

CERTIFICATIONS:



E228202



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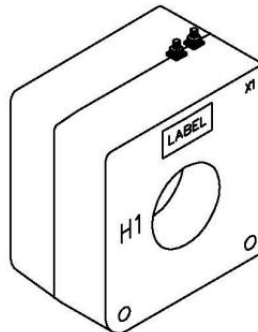


ISO 9001
Registered

Quality
Management

MODEL 21
Window Diameter 1.25"
Approximate weight: 10 lbs.

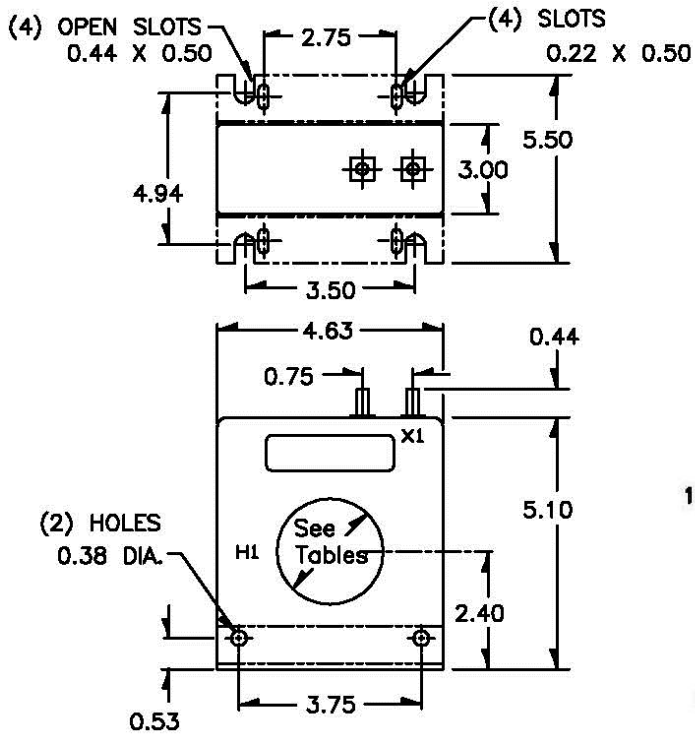
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@ 30°C	@55°C
21 - 500	50:5	-	1.2	2.4	-	-	-	0.026	2.0	2.0
21 - 750	75:5	C10	0.6	1.2	2.4	4.8	-	0.042	2.0	2.0
21 - 101	100:5	C10	0.6	1.2	1.2	2.4	4.8	0.063	2.0	2.0
21 - 151	150:5	C20	0.3	0.6	0.6	1.2	2.4	0.098	2.0	1.5
21 - 201	200:5	C20	0.3	0.3	0.6	0.6	1.2	0.126	2.0	1.5
21 - 251	250:5	C20	0.3	0.3	0.3	0.6	1.2	0.158	1.5	1.5
21 - 301	300:5	C20	0.3	0.3	0.3	0.3	0.3	0.168	1.5	1.33
21 - 401	400:5	C50	0.3	0.3	0.3	0.3	0.3	0.253	1.5	1.0
21 - 501	500:5	C20	0.3	0.3	0.3	0.3	0.6	0.283	1.5	1.0
21 - 601	600:5	C50	0.3	0.3	0.3	0.3	0.3	0.339	1.33	1.0
21 - 751	750:0	C50	0.3	0.3	0.3	0.3	0.3	0.424	1.0	0.8
21 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.3	0.452	1.0	0.8
21 - 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.565	1.0	0.8



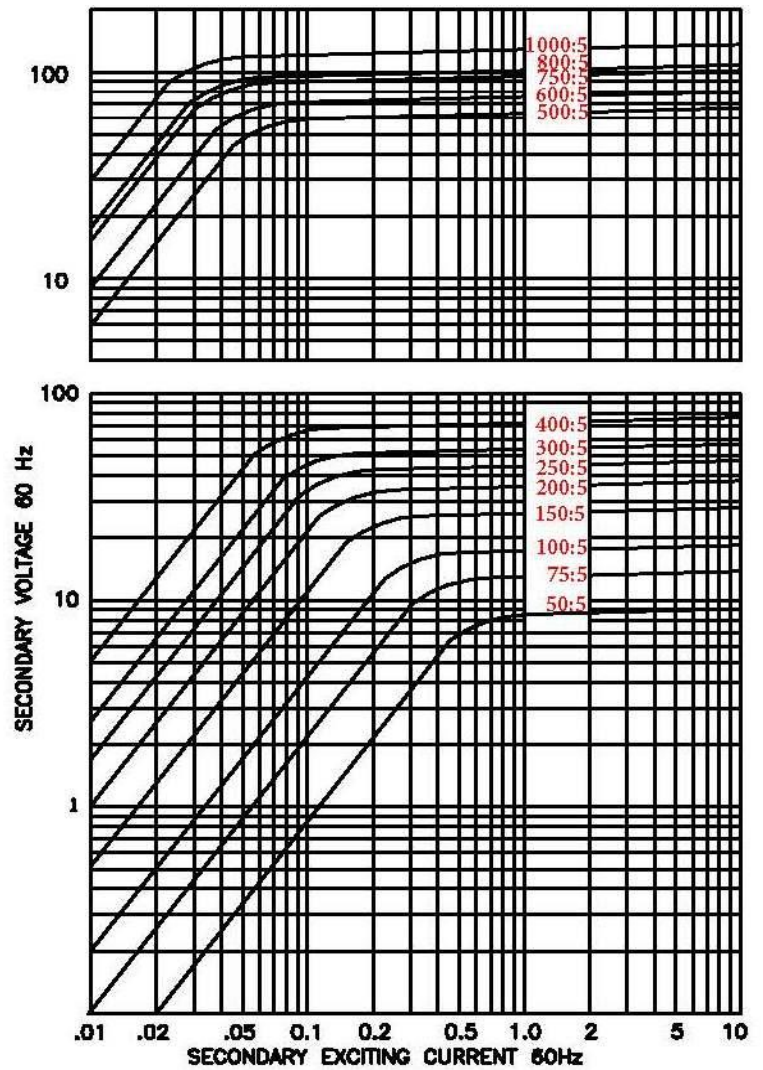
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Models 21, 22, 23, 24 & 25



EXCITATION CURVE



Model 21

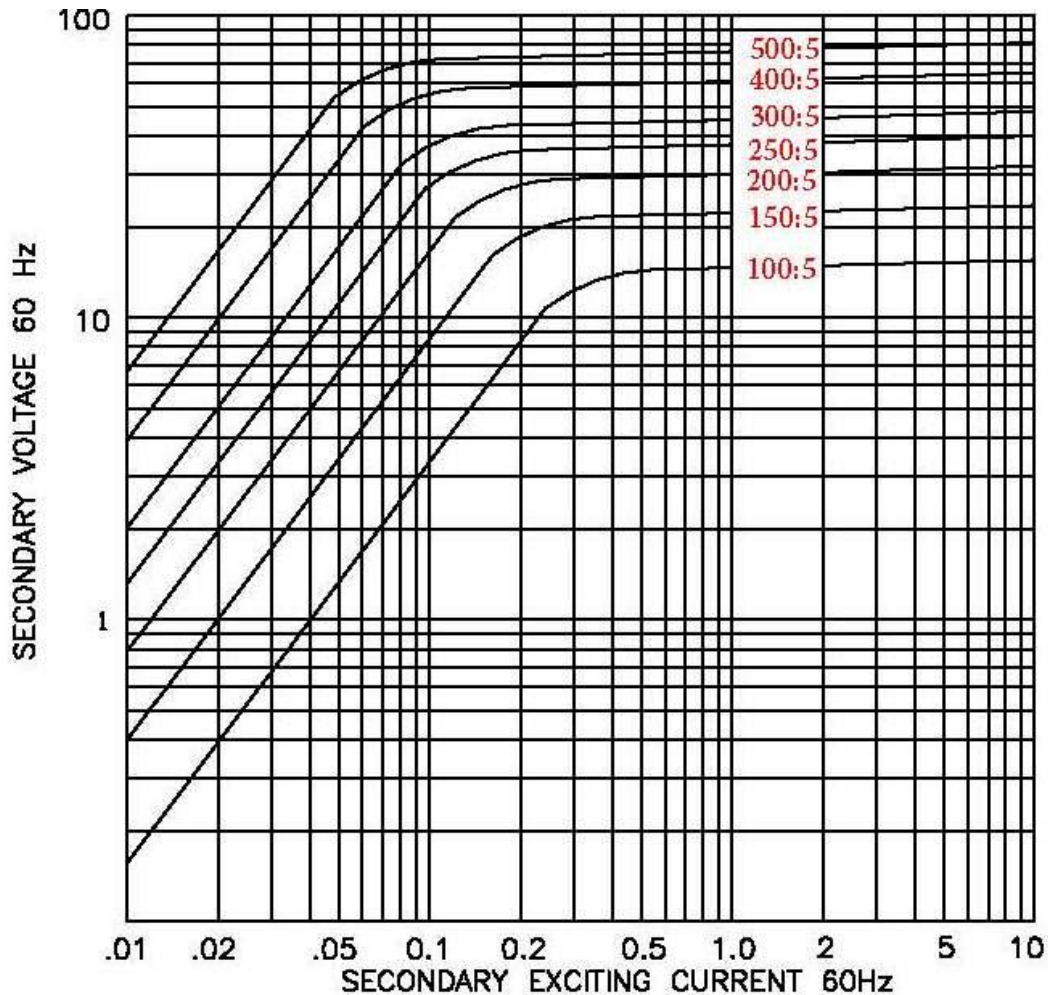


MODEL 22

Window Diameter 1.63"
Approximate weight: 9 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.B		@ 30° C	@ 55° C
22 - 101	100:5	C10	0.6	1.2	2.4	2.4	4.8	0.060	2.0	2.0
22 - 151	150:5	C10	0.3	0.6	1.2	1.2	2.4	0.090	2.0	2.0
22 - 201	200:5	C20	0.3	0.3	0.6	1.2	1.2	0.120	2.0	1.5
22 - 251	250:5	C20	0.3	0.3	0.6	0.6	1.2	0.150	1.5	1.5
22 - 301	300:5	C20	0.3	0.3	0.3	0.6	0.6	0.180	1.5	1.33
22 - 401	400:5	C20	0.3	0.3	0.3	0.3	0.6	0.241	1.5	1.0
22 - 501	500:5	C50	0.3	0.3	0.3	0.3	0.3	0.301	1.5	1.0

EXCITATION CURVE



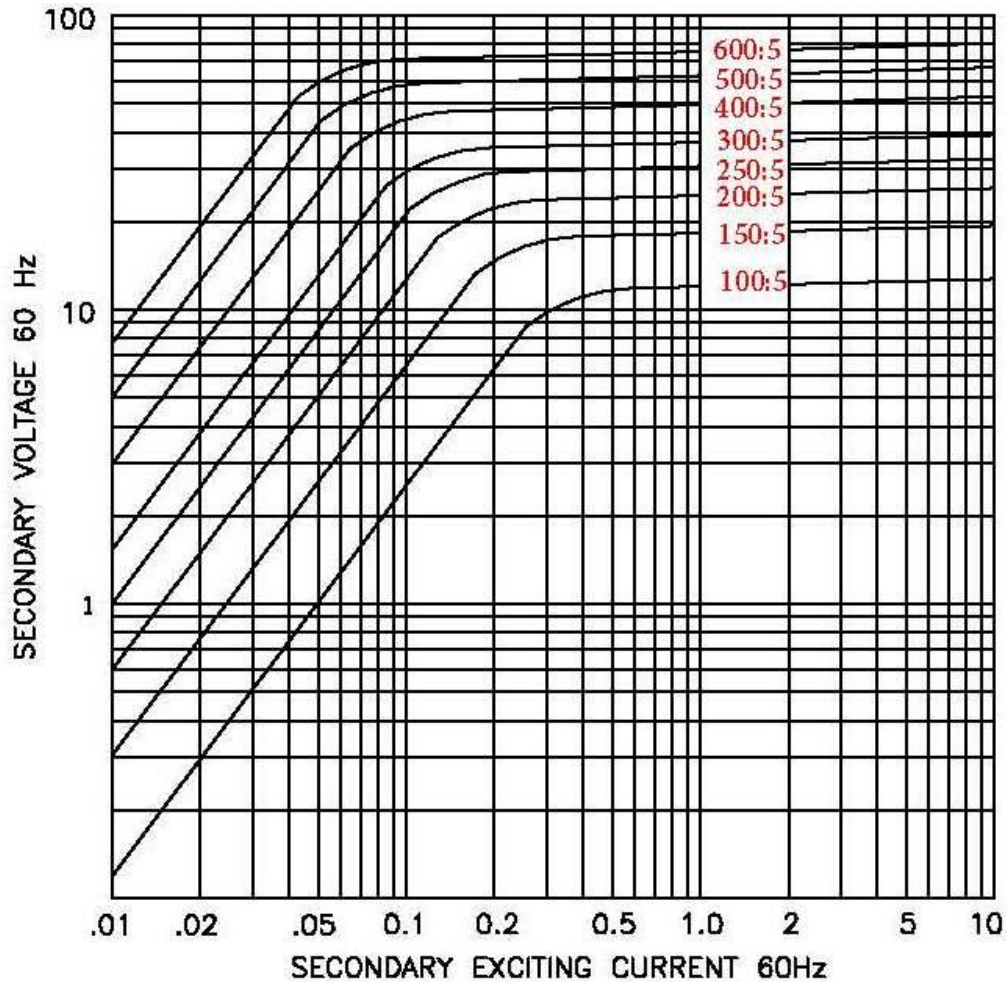
Model 22



MODEL 23
Window Diameter 2.00"
Approximate weight: 8.5 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.B		@ 30° C	@ 55° C
23-101	100:5	-	0.6	0.6	2.4	4.8	-	0.051	2.0	2.0
23-151	150:5	C10	0.6	0.6	0.6	1.2	2.4	0.076	2.0	2.0
23-201	200:5	C10	0.3	0.6	0.6	1.2	2.4	0.114	2.0	1.5
23-251	250:5	C20	0.3	0.3	0.6	0.6	1.2	0.143	2.0	1.5
23-301	300:5	C20	0.3	0.3	0.3	0.6	1.2	0.171	1.5	1.33
23-401	400:5	C20	0.3	0.3	0.3	0.3	0.8	0.228	1.5	1.0
23-501	500:5	C20	0.3	0.3	0.3	0.3	0.3	0.288	1.5	1.0
23-601	600:5	C50	0.3	0.3	0.3	0.3	0.3	0.343	1.33	1.0

EXCITATION CURVE

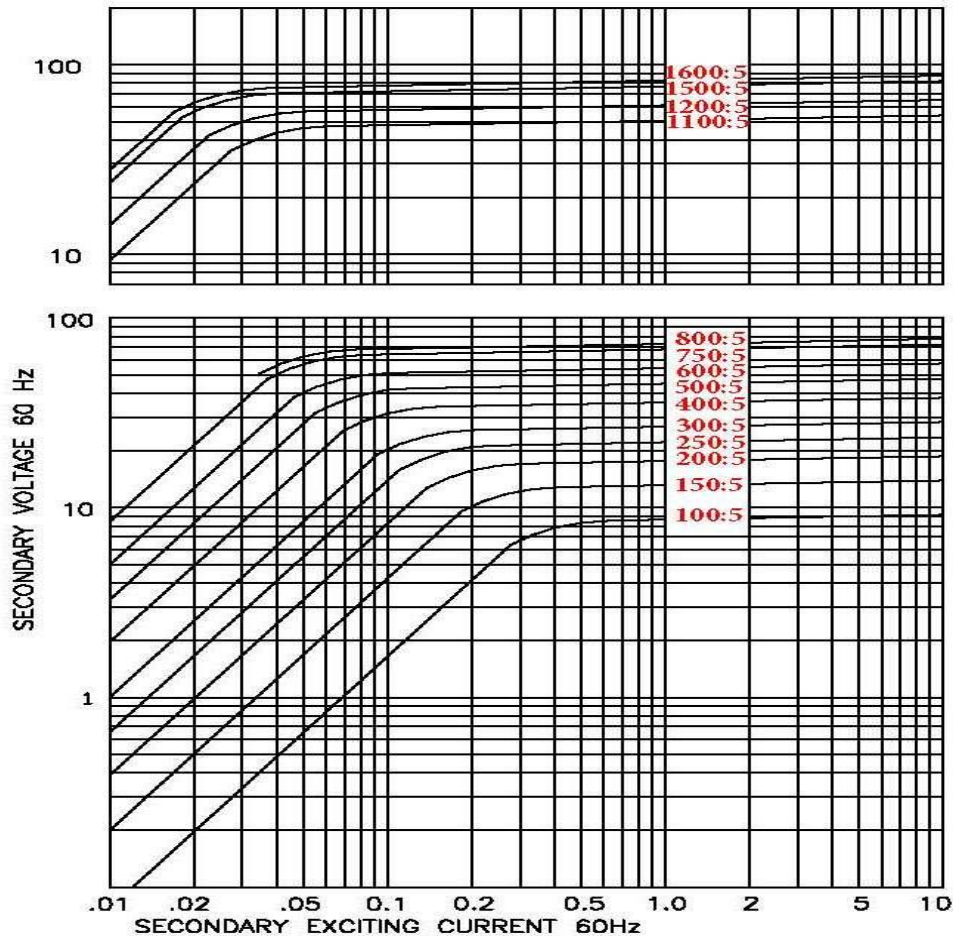


Model 23

MODEL 24
 Window Diameter 2.50"
 Approximate weight: 6.5 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.B		@ 30°C	@ 55°C
24 - 101	100:5	-	0.6	1.2	2.4	4.8	-	0.046	2.0	2.0
24 - 151	150:5	-	0.6	0.6	1.2	2.4	4.8	0.069	2.0	2.0
24 - 201	200:5	C10	0.3	0.3	0.6	1.2	2.4	0.096	2.0	1.5
24 - 251	250:5	C10	0.3	0.3	0.3	0.6	1.2	0.118	2.0	1.5
24 - 301	300:5	C10	0.3	0.3	0.3	0.6	1.2	0.133	2.0	1.5
24 - 401	400:5	C20	0.3	0.3	0.3	0.6	0.6	0.212	1.5	1.0
24 - 501	500:5	C20	0.3	0.3	0.3	0.3	0.6	0.265	1.5	1.0
24 - 601	600:5	C20	0.3	0.3	0.3	0.3	0.3	0.317	1.33	1.0
24 - 751	750:5	C20	0.3	0.3	0.3	0.3	0.3	0.396	1.0	1.0
24 - 801	800:5	C20	0.3	0.3	0.3	0.3	0.3	0.423	1.0	0.8
24 - 102	1000:5	C10	0.3	0.3	0.3	0.3	0.3	0.446	1.0	0.8
24 - 122	1200:5	C10	0.3	0.3	0.3	0.3	0.3	0.535	1.0	0.8
24 - 152	1500:5	C10	0.3	0.3	0.3	0.3	0.3	0.669	1.0	0.8
24 - 162	1600:5	C10	0.3	0.3	0.3	0.3	0.3	0.713	0.8	0.8

EXCITATION CURVE



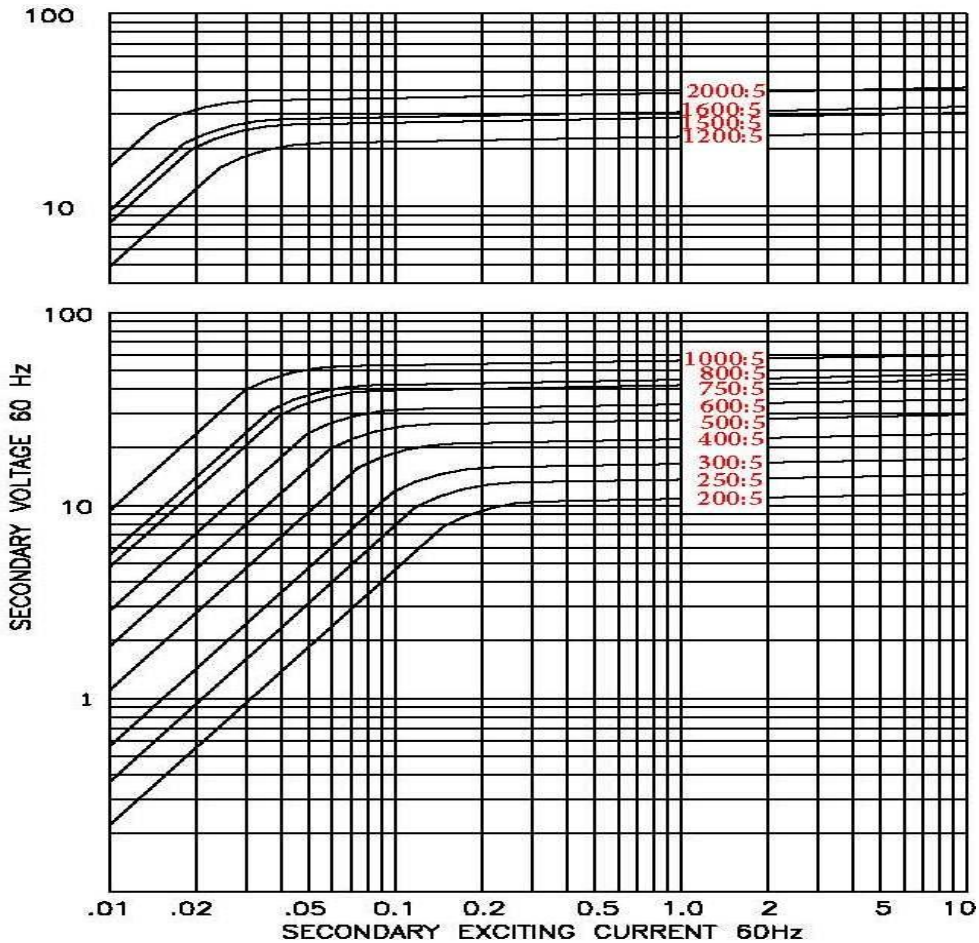
Model 24



MODEL 25
Window Diameter 3.13"
Approximate weight: 5.5 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.B		@ 30°C	@ 55°C
25 - 201	200:5	10	0.6	0.6	1.2	2.4	4.8	0.081	2.0	2.0
25 - 251	250:5	15	0.3	0.3	1.2	1.2	2.4	0.108	2.0	1.5
25 - 301	300:5	20	0.3	0.3	0.6	1.2	2.4	0.129	2.0	1.5
25 - 401	400:5	30	0.3	0.3	0.6	0.6	1.2	0.194	1.5	1.33
25 - 501	500:5	45	0.3	0.3	0.3	0.6	1.2	0.243	1.5	1.0
25 - 601	600:5	60	0.3	0.3	0.3	0.3	0.6	0.292	1.33	1.0
25 - 751	750:5	75	0.3	0.3	0.3	0.3	0.6	0.364	1.0	0.8
25 - 801	800:5	80	0.3	0.3	0.3	0.3	0.3	0.389	1.0	0.8
25 - 102	1000:5	100	0.3	0.3	0.3	0.3	0.3	0.486	1.0	0.8
25 - 122	1200:5	75	0.3	0.3	0.3	0.3	0.3	0.389	1.0	0.8
25 - 152	1500:5	90	0.3	0.3	0.3	0.3	0.3	0.617	1.0	0.8
25 - 162	1600:5	95	0.3	0.3	0.3	0.3	0.3	0.658	1.0	0.6
25 - 202	2000:5	100	0.3	0.3	0.3	0.3	0.3	0.822	0.8	0.6

EXCITATION CURVE



Model 25



Current Transformer

Model 296 - 300

CERTIFICATIONS:



APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

1.50", 2.25", 3.0", 3.38", 3.75"

APPROXIMATE WEIGHT:

18, 15, 12, 10, 9 lbs.

CONNECTIONS:

-Terminals are brass studs No. 8-32

UNC with one flat washer,

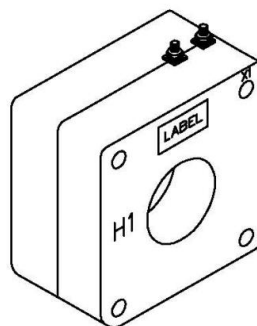
lockwasher, and regular nut

-Multi-ratios available upon request

Model	296	297	298	299	300
Window Size	1.50	2.25	3.00	3.38	3.75
Width	5.96	5.96	5.96	5.96	5.96
Height	6.31	6.31	6.31	6.31	6.31
Depth	3.00	3.00	3.00	3.00	3.00

MODEL 296
Window Diameter 1.50"
Approximate weight: 18 lbs.

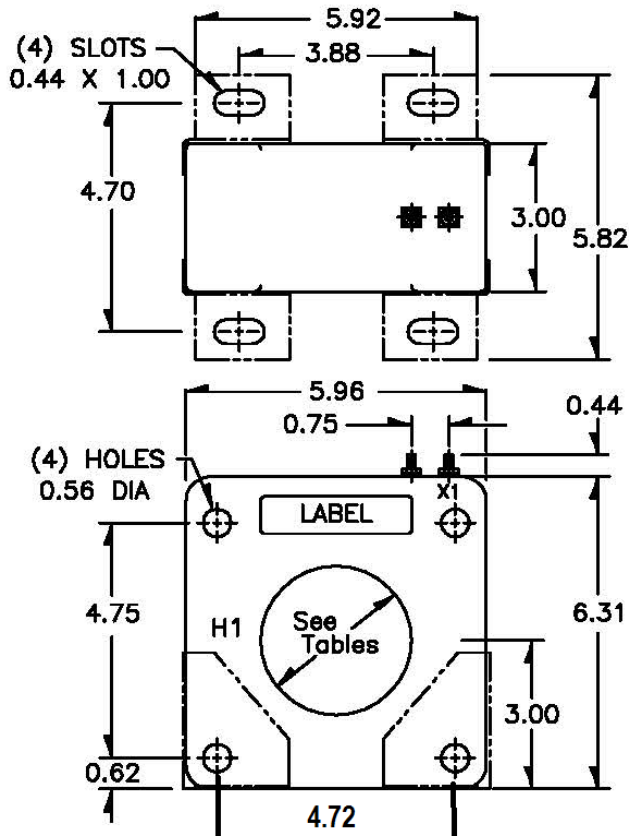
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
296 - 500	50:5	C10	1.2	2.4	4.8	-	-	0.018	2.0	2.0
296 - 750	75:5	C10	0.6	1.2	2.4	4.8	-	0.027	2.0	2.0
296 - 101	100:5	C20	0.6	0.6	1.2	2.4	4.8	0.035	2.0	2.0
296 - 151	150:5	C20	0.3	0.3	0.6	1.2	2.4	0.053	2.0	2.0
296 - 201	200:5	C20	0.3	0.3	0.6	0.6	1.2	0.071	2.0	2.0
296 - 251	250:5	C50	0.3	0.3	0.3	0.3	0.6	0.121	2.0	2.0
296 - 301	300:5	C50	0.3	0.3	0.3	0.3	0.6	0.168	2.0	1.5
296 - 401	400:5	C100	0.3	0.3	0.3	0.3	0.3	0.224	2.0	1.5
296 - 501	500:5	C50	0.3	0.3	0.3	0.3	0.3	0.249	1.5	1.5
296 - 601	600:5	C100	0.3	0.3	0.3	0.3	0.3	0.298	1.5	1.33
296 - 751	750:5	C100	0.3	0.3	0.3	0.3	0.3	0.373	1.5	1.0
296 - 801	800:5	C100	0.3	0.3	0.3	0.3	0.3	0.398	1.5	1.0
296 - 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.447	1.33	1.0



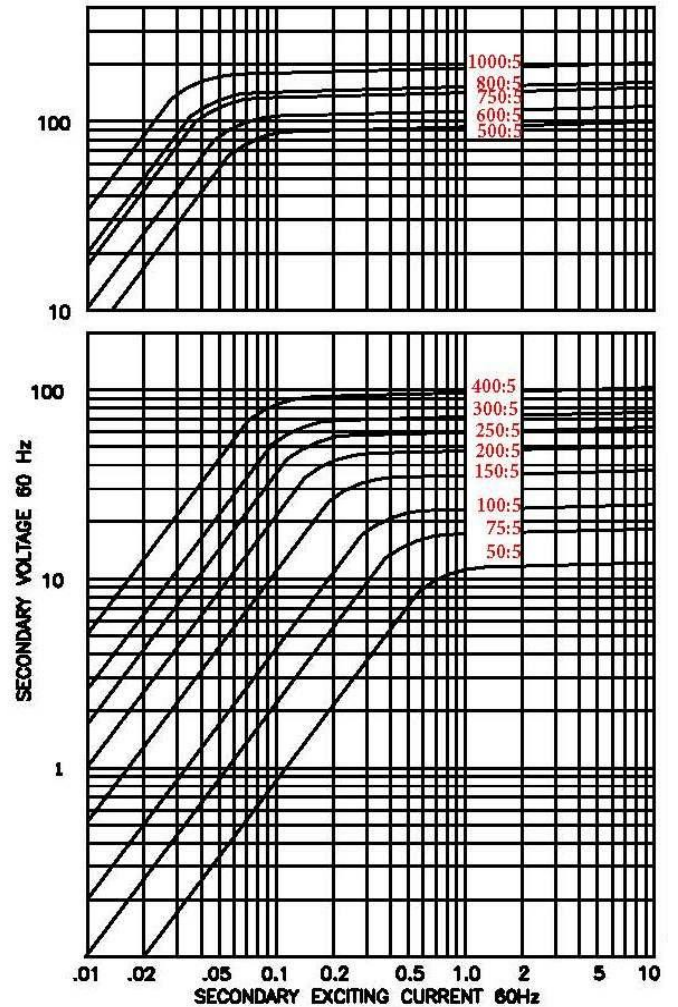
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Model 296



EXCITATION CURVE

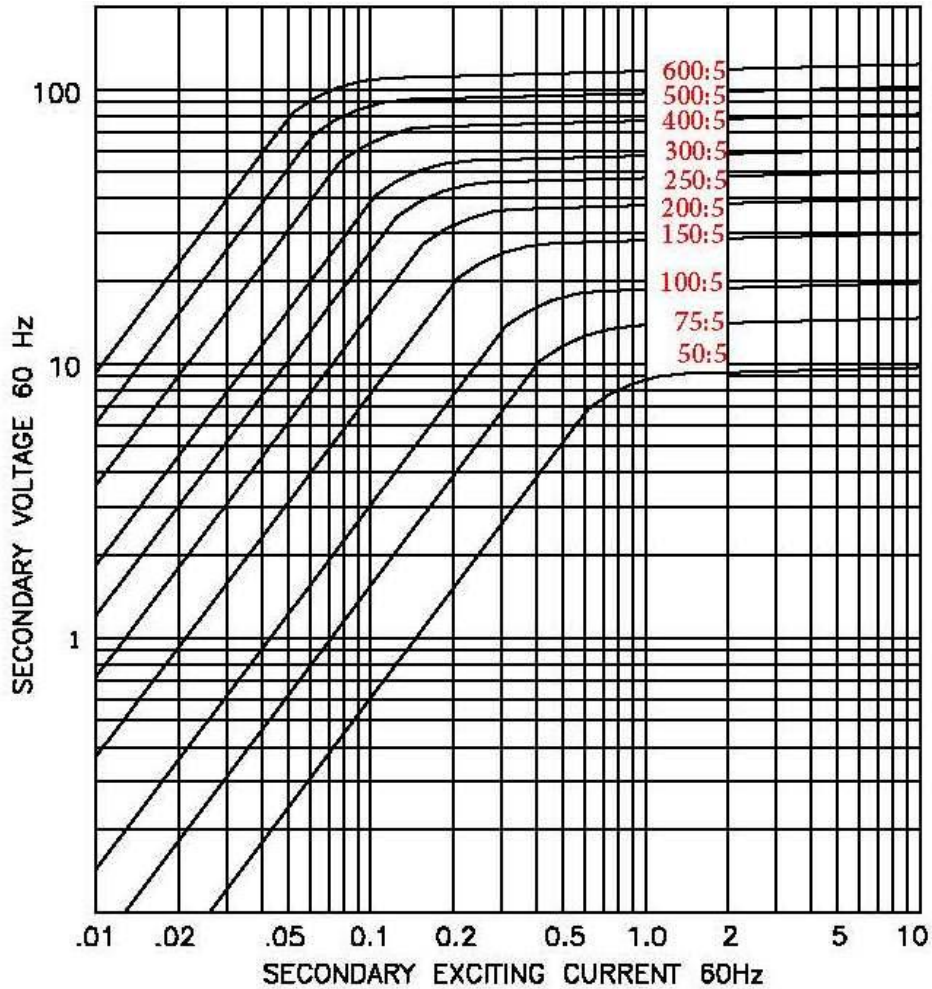


Model 296

MODEL 297
 Window Diameter 2.25"
 Approximate weight: 15 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
297 - 500	50:5	-	2.4	4.8	-	-	-	0.015	2.0	2.0
297 - 750	75:5	C10	1.2	2.4	4.8	4.8	-	0.023	2.0	2.0
297 - 101	100:5	C10	0.6	1.2	2.4	4.8	4.8	0.051	2.0	2.0
297 - 151	150:5	C20	0.6	0.6	1.2	2.4	2.4	0.048	2.0	2.0
297 - 201	200:5	C20	0.3	0.6	0.6	1.2	2.4	0.103	2.0	2.0
297 - 251	250:5	C20	0.3	0.3	0.3	0.6	1.2	0.111	2.0	2.0
297 - 301	300:5	C50	0.3	0.3	0.3	0.6	1.2	0.154	2.0	1.5
297 - 401	400:5	C50	0.3	0.3	0.3	0.3	0.6	0.205	2.0	1.5
297 - 501	500:5	C50	0.3	0.3	0.3	0.3	0.3	0.233	2.0	1.5
297 - 601	600:5	C100	0.3	0.3	0.3	0.3	0.3	0.308	1.5	1.33

EXCITATION CURVE

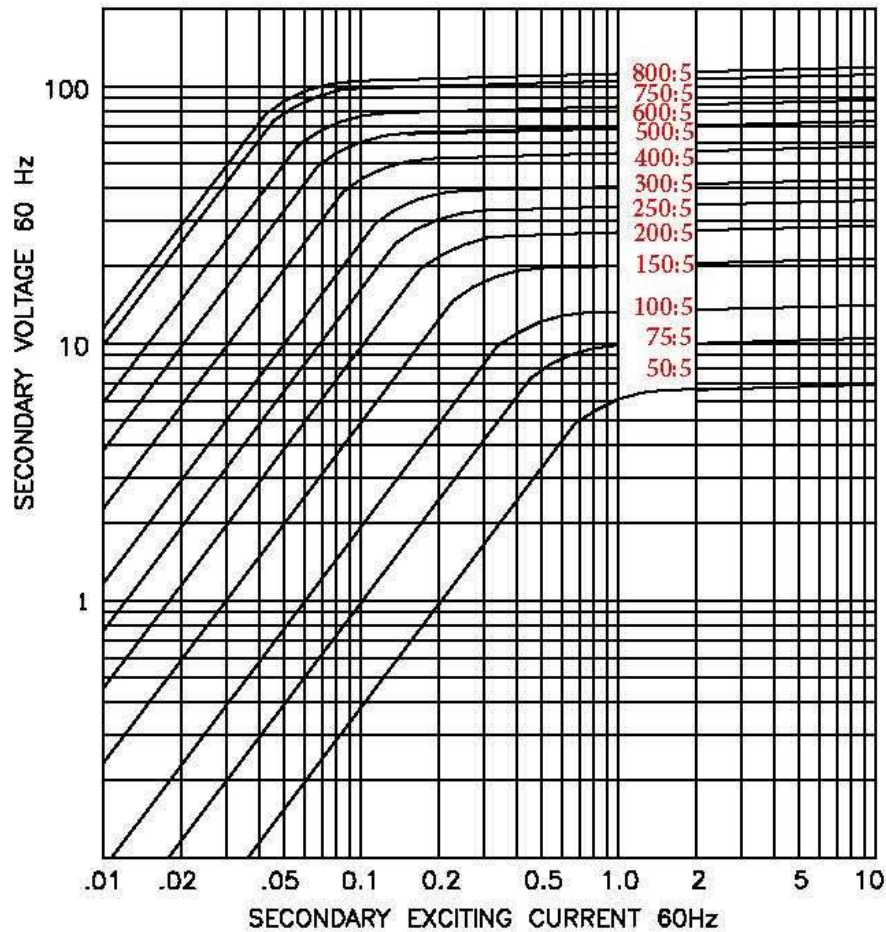


Model 297

MODEL 298
 Window Diameter 3.0"
 Approximate weight: 12 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
298 - 500	50:5	-	2.4	4.8	-	-	-	0.023	2.0	2.0
298 - 750	75:5	-	1.2	1.2	4.8	-	-	0.028	2.0	2.0
298 - 101	100:5	C10	0.6	0.6	2.4	4.8	-	0.040	2.0	2.0
298 - 151	150:5	C10	0.6	0.6	1.2	2.4	4.8	0.060	2.0	2.0
298 - 201	200:5	C20	0.6	0.6	0.6	1.2	2.4	0.080	2.0	2.0
298 - 251	250:5	C20	0.3	0.3	0.6	1.2	2.4	0.073	2.0	2.0
298 - 301	300:5	C20	0.3	0.3	0.6	0.6	1.2	0.087	2.0	2.0
298 - 401	400:5	C20	0.3	0.3	0.3	0.3	0.6	0.186	2.0	1.5
298 - 501	500:5	C50	0.3	0.3	0.3	0.3	0.6	0.233	2.0	1.5
298 - 601	600:5	C50	0.3	0.3	0.3	0.3	0.3	0.279	1.5	1.33
298 - 751	750:5	C50	0.3	0.3	0.3	0.3	0.3	0.349	1.5	1.0
298 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.3	0.372	1.5	1.0

EXCITATION CURVE

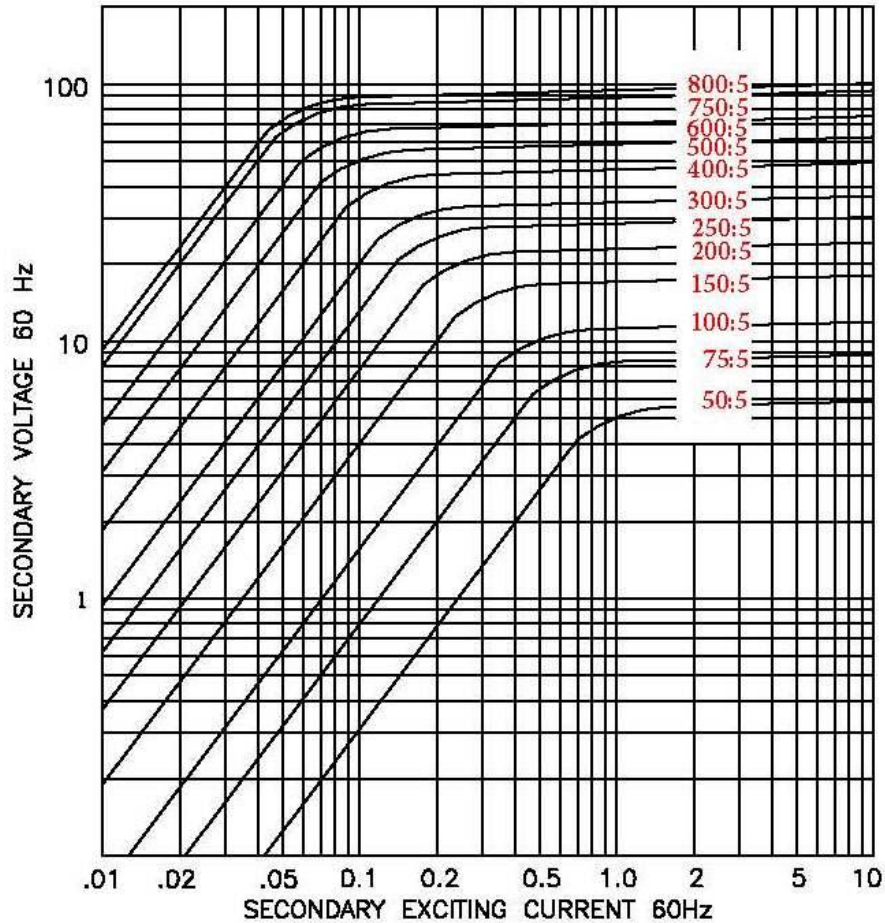


Model 298

Model 299
 Window Diameter 3.38"
 Approximate weight: 10 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
299 - 500	50:5	-	4.8	4.8	-	-	-	0.022	2.0	2.0
299 - 750	75:5	-	1.2	2.4	4.8	-	-	0.028	2.0	2.0
299 - 101	100:5	C10	0.6	1.2	2.4	4.8	-	0.038	2.0	2.0
299 - 151	150:5	C10	0.6	0.6	1.2	2.4	4.8	0.057	2.0	2.0
299 - 201	200:5	C10	0.6	0.6	1.2	1.2	2.4	0.088	2.0	2.0
299 - 251	250:5	C20	0.3	0.3	0.6	1.2	2.4	0.098	2.0	2.0
299 - 301	300:5	C20	0.3	0.3	0.3	0.6	1.2	0.118	2.0	2.0
299 - 401	400:5	C20	0.3	0.3	0.3	0.6	0.6	0.177	2.0	1.5
299 - 501	500:5	C20	0.3	0.3	0.3	0.3	0.6	0.221	2.0	1.5
299 - 601	600:5	C50	0.3	0.3	0.3	0.3	0.3	0.265	1.5	1.33
299 - 751	750:5	C50	0.3	0.3	0.3	0.3	0.3	0.331	1.5	1.0
299 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.3	0.353	1.5	1.0

EXCITATION CURVE

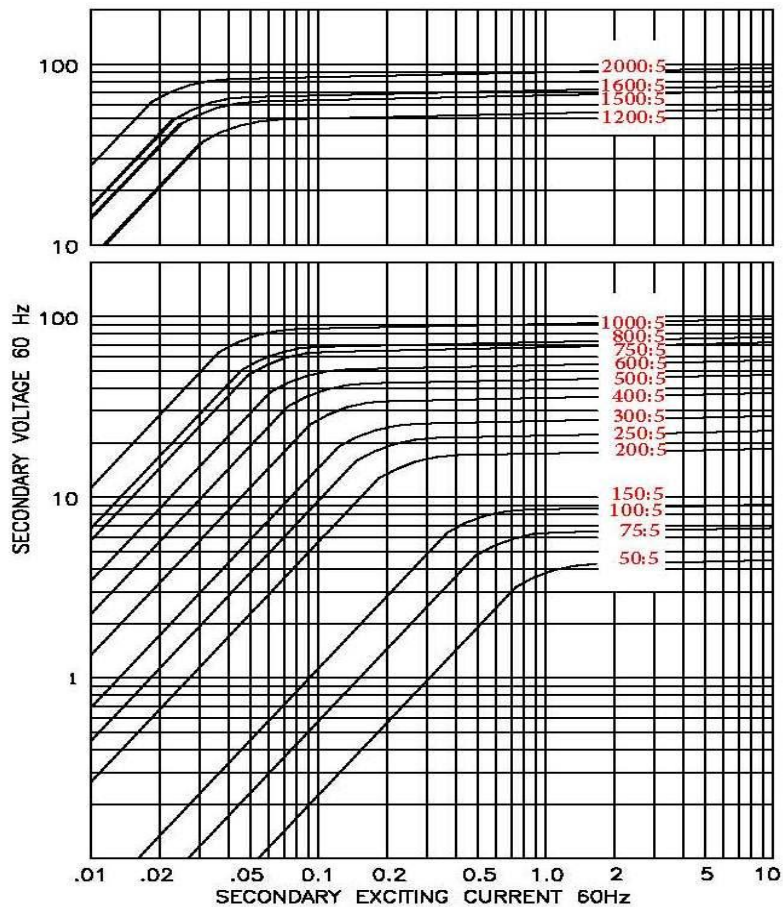


Model 299

Window Diameter 3.75"
Approximate weight: 9 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
300 - 500	50:5	-	2.4	4.8	-	-	-	0.012	2.0	2.0
300 - 750	75:5	-	2.4	2.4	-	-	-	0.019	2.0	2.0
300 - 101	100:5	-	2.4	2.4	2.4	-	-	0.026	2.0	2.0
300 - 151	150:5	-	0.6	0.6	2.4	2.4	4.8	0.054	2.0	2.0
300 - 201	200:5	C10	0.6	0.6	1.2	2.4	4.8	0.072	2.0	2.0
300 - 251	250:5	C10	0.3	0.6	1.2	1.2	2.4	0.104	2.0	2.0
300 - 301	300:5	C10	0.3	0.3	0.3	0.6	1.2	0.108	2.0	2.0
300 - 401	400:5	C20	0.3	0.3	0.3	0.6	1.2	0.144	2.0	1.5
300 - 501	500:5	C20	0.3	0.3	0.3	0.6	0.6	0.209	2.0	1.5
300 - 601	600:5	C20	0.3	0.3	0.3	0.3	0.6	0.251	1.5	1.33
300 - 751	750:5	C20	0.3	0.3	0.3	0.3	0.3	0.329	1.5	1.0
300 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.3	0.334	1.5	1.0
300 - 102	1000:5	C50	0.3	0.3	0.3	0.3	0.3	0.418	1.33	1.0
300 - 122	1200:5	C10	0.3	0.3	0.3	0.3	0.3	0.425	1.33	1.0
300 - 152	1500:5	C10	0.3	0.3	0.3	0.3	0.3	0.531	1.0	1.0
300 - 162	1600:5	C10	0.3	0.3	0.3	0.3	0.3	0.567	1.0	0.8
300 - 202	2000:5	C20	0.3	0.3	0.3	0.3	0.3	0.708	1.0	0.8

EXCITATION CURVE



Model 300



Current Transformer

Model 10

CERTIFICATIONS:



Model	10SFT
Window Size	1.56
Width	4.08
Height	4.59
Depth	2.10

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

1.56"

APPROXIMATE WEIGHT:

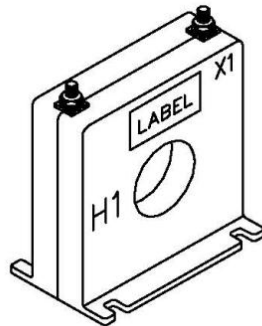
2.5 lbs.

CONNECTIONS:

-Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut

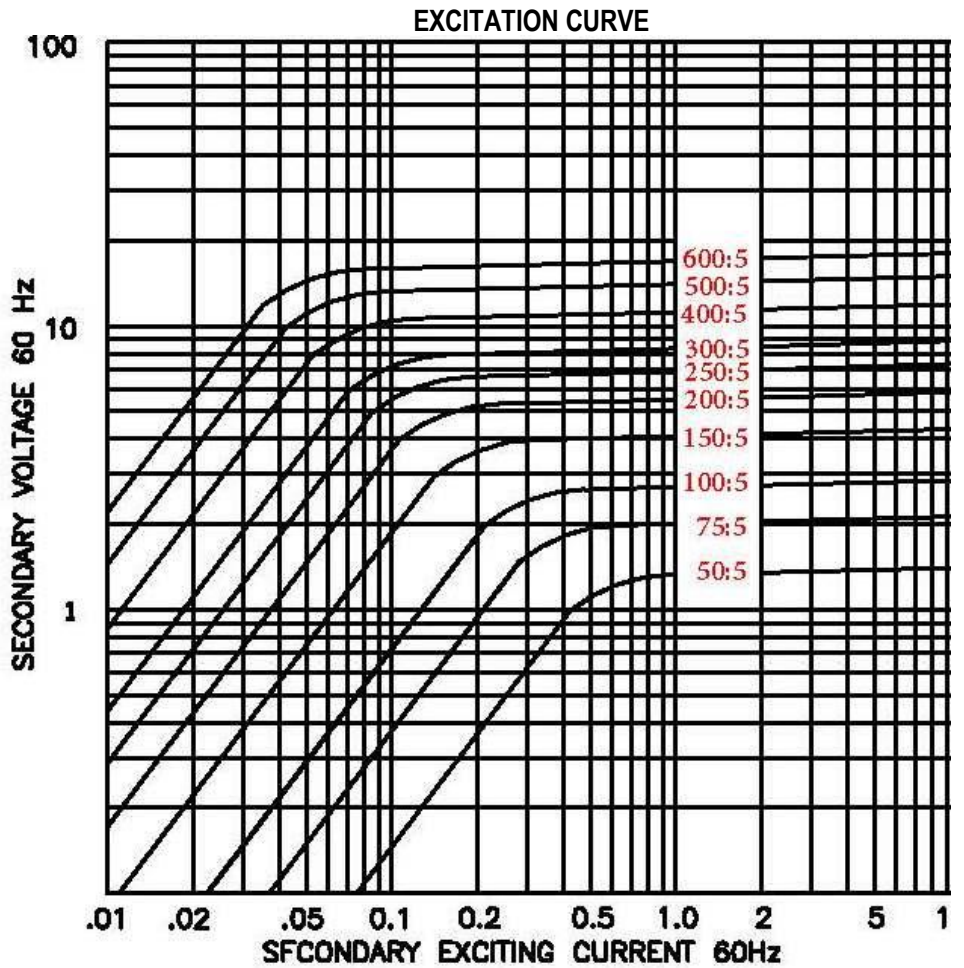
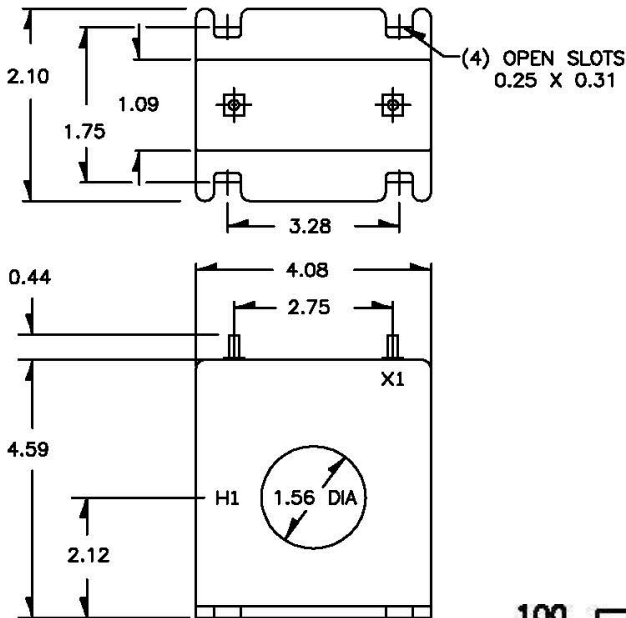
MODEL 10
Window Diameter 1.56"
Approximate weight: 2.5 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@30°C	@55°C
10SFT-500	50:5	2.0 ± 2%	4.8	-	-	-	-	0.007	2	2
10SFT-750	75:5	2.5	1.2	4.8	-	-	-	0.01	2	2
10SFT-101	100:5	3	1.2	2.4	4.8	-	-	0.018	2	2
10SFT-151	150:5	5	0.6	0.6	2.4	4.8	-	0.031	2	2
10SFT-201	200:5	7.5	0.3	0.6	1.2	2.4	4.8	0.043	2	1.5
10SFT-251	250:5	10	0.3	0.3	1.2	1.2	2.4	0.053	2	1.5
10SFT-301	300:5	15	0.3	0.3	0.6	1.2	2.4	0.07	2	1.5
10SFT-401	400:5	20	0.3	0.3	0.3	0.6	1.2	0.114	1.5	1
10SFT-501	500:5	30	0.3	0.3	0.3	0.6	1.2	0.128	1.33	1
10SFT-601	600:5	40	0.3	0.3	0.3	0.6	0.6	0.192	1.33	0.8



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

Model 10



Model 10



Current Transformer

Model 64, 65, 66

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

1.56", 2.0", 2.5"

APPROXIMATE WEIGHT:

3.75, 3.25 and 2.5 lbs.

CONNECTIONS:

-Terminals are brass studs No. 8 – 32 with one flat washer, lockwasher, and regular nut



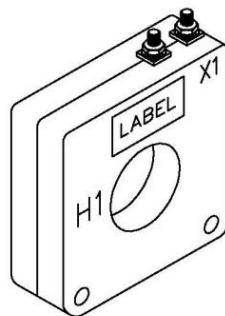
CERTIFICATIONS:



Model	64	65	66
Window Size	1.56	2.00	2.50
Width	4.00	4.00	4.00
Height	4.00	4.00	4.00
Depth	1.75	1.75	1.75

MODEL 64
Window Diameter 1.56"
Approximate weight: 3.75 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO. 1	BO.2	BO.5	BO.9	B1.B		@ 30° C	@ 55° C
64 – 500	50:5	2.5 ± 2%	2.4	-	-	-	-	0.011	2.0	2.0
64 – 750	75:5	4.0	1.2	2.4	-	-	-	0.020	2.0	2.0
64 – 101	100:5	5.0	1.2	1.2	4.8	4.8	-	0.026	2.0	2.0
64 – 151	150:5	7.5	0.6	0.6	1.2	2.4	4.8	0.043	2.0	2.0
64 – 201	200:5	12.5	0.3	0.3	1.2	1.2	2.4	0.063	2.0	1.5
64 – 251	250:5	20.0	0.3	0.3	0.6	1.2	2.4	0.074	2.0	1.5
64 – 301	300:5	35.0	0.3	0.3	0.3	0.6	1.2	0.086	2.0	1.5
64 – 401	400:5	50.0	0.3	0.3	0.3	0.6	1.2	0.110	1.5	1.33
64 – 501	500:5	50.0	0.3	0.3	0.3	0.3	0.6	0.173	1.5	1.0

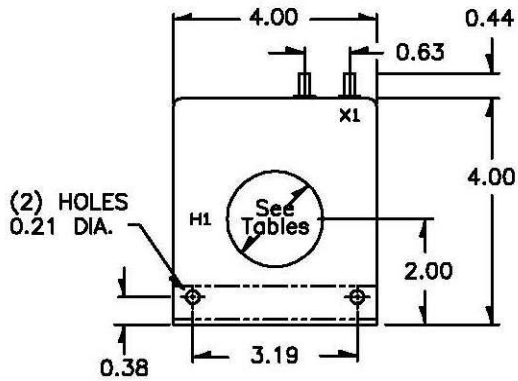
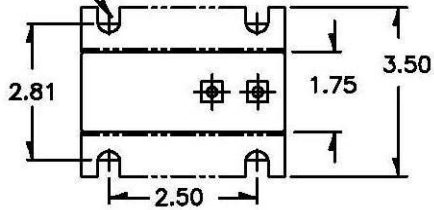


Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



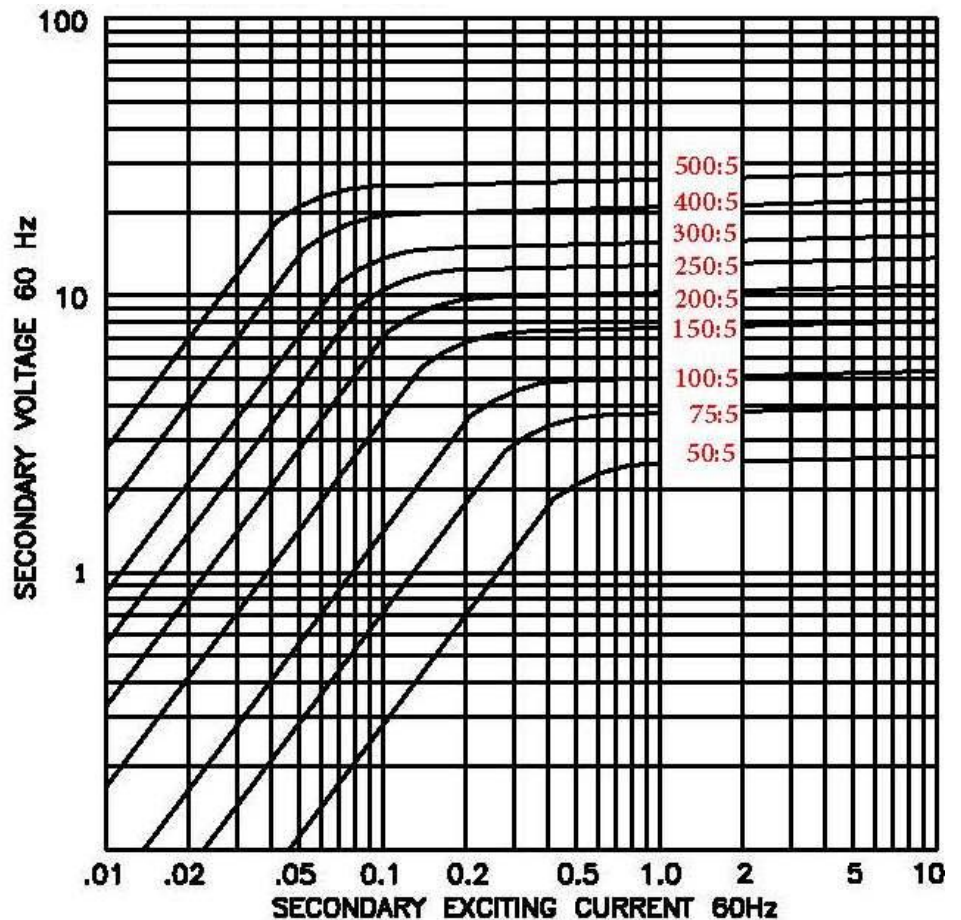
Models 64, 65 & 66

(4) OPEN SLOTS
0.22 X 0.47



(2) HOLES
0.21 DIA.

EXCITATION CURVE



Model 64



TTL Transformer Technologies Ltd.



Current Transformer

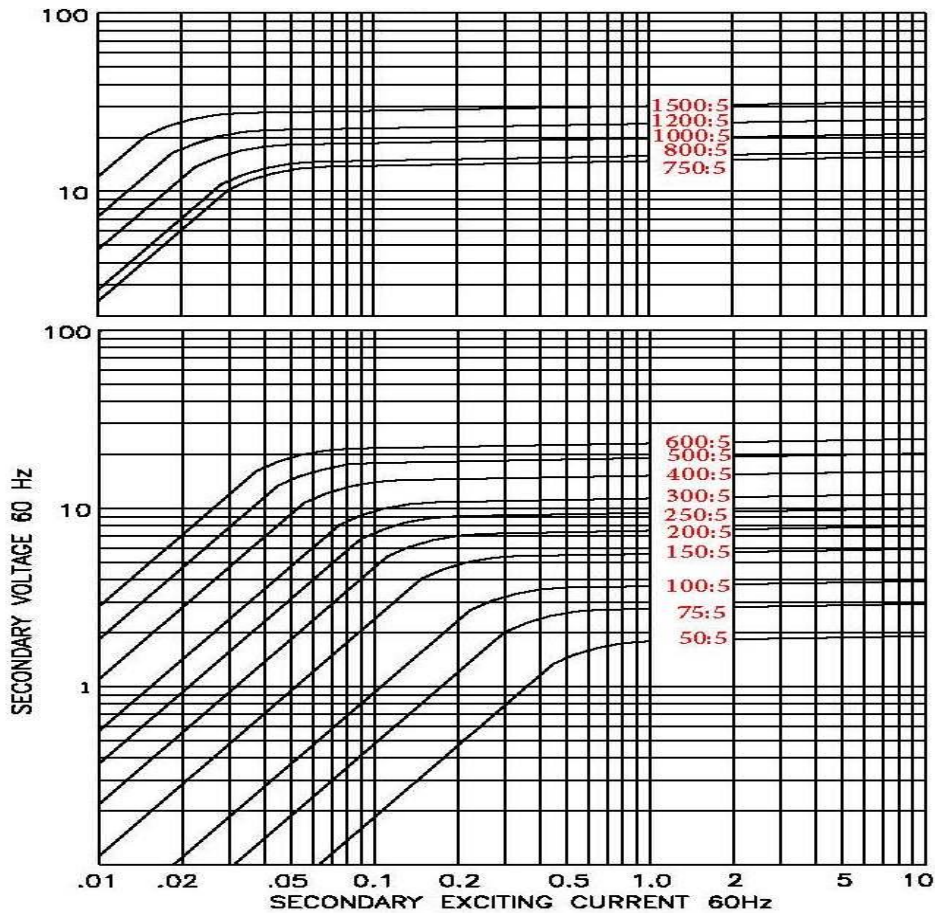
Model 64, 65, 66

MODEL 65

Window Diameter 2.0"
Approximate weight: 3.25 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 50 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30° C	@ 55° C
65 - 500	50:5	2.0	2.4	-	-	-	-	0.007	2.0	2.0
65 - 750	75:5	4.0	2.4	2.4	-	-	-	0.013	2.0	2.0
65 - 101	100:5	4.0	1.2	1.2	4.8	-	-	0.022	2.0	2.0
65 - 151	150:5	6.0	0.6	0.6	2.4	4.8	4.8	0.039	2.0	2.0
65 - 201	200:5	12.5	0.6	0.6	1.2	2.4	2.4	0.047	2.0	2.0
65 - 251	250:5	15.0	0.3	0.3	0.6	1.2	2.4	0.067	2.0	1.5
65 - 301	300:5	20.0	0.3	0.3	0.6	1.2	2.4	0.077	2.0	1.5
65 - 401	400:5	35.0	0.3	0.3	0.3	0.6	1.2	0.110	1.5	1.25
65 - 501	500:5	50.0	0.3	0.3	0.3	0.6	1.2	0.155	1.33	1.0
65 - 601	600:5	60.0	0.3	0.3	0.3	0.3	0.6	0.186	1.25	1.0
65 - 751	750:5	75.0	0.3	0.3	0.3	0.6	0.6	0.197	1.0	0.8
65 - 801	800:5	80.0	0.3	0.3	0.3	0.3	0.6	0.210	1.0	0.8
65 - 102	1000:5	100.0	0.3	0.3	0.3	0.3	0.6	0.253	1.0	0.8
65 - 122	1200:5	105.0	0.3	0.3	0.3	0.3	0.3	0.316	1.0	0.8
65 - 152	1500:5	140.0	0.3	0.3	0.3	0.3	0.3	0.491	1.0	0.8

EXCITATION CURVE



Model 65



TTL Transformer Technologies Ltd.



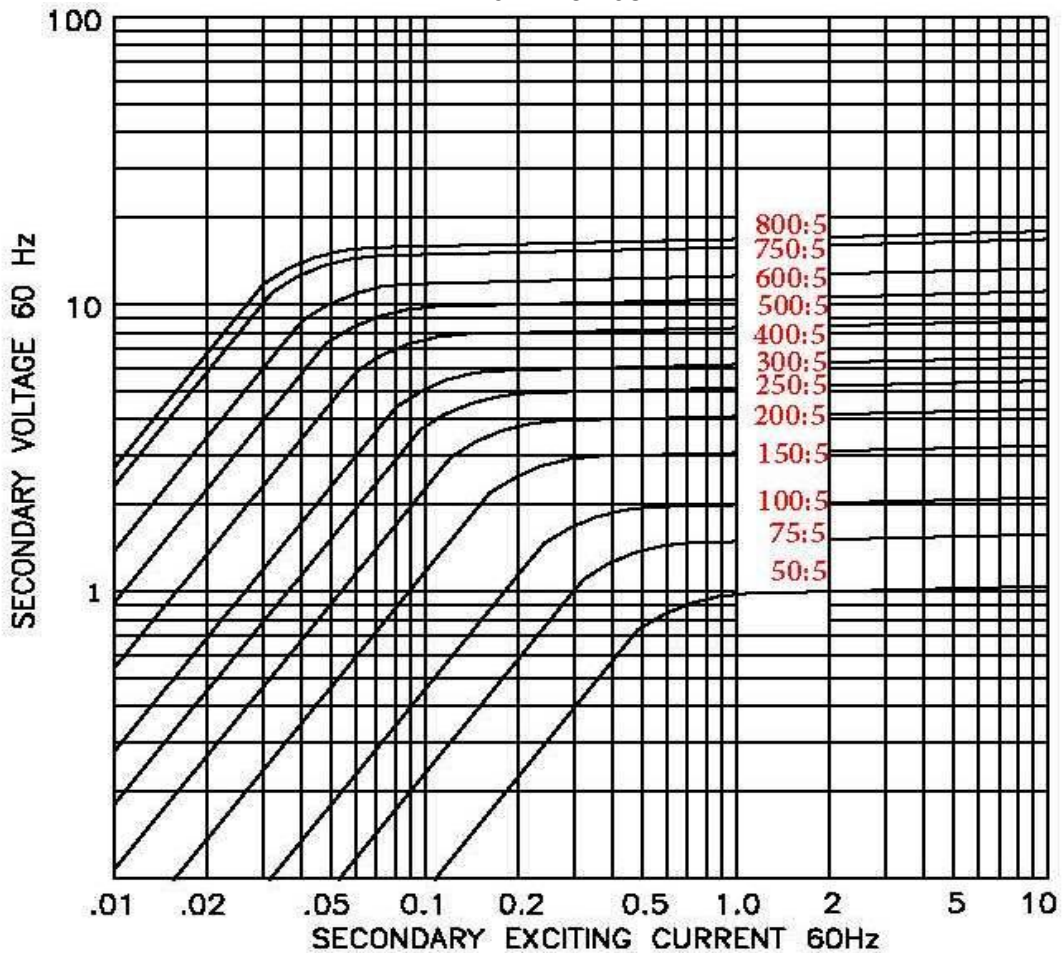
Current Transformer

Model 64, 65, 66

Model 66
Window Diameter 2.5"
Approximate weight: 2.5 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR + 1.5% CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30° C	@ 55° C
66 - 500	50:5	1.5+2%	-	-	-	-	-	0.006	2.0	2.0
66 - 750	75:5	2.5+2%	2.4	-	-	-	-	0.008	2.0	2.0
66 - 101	100:5	2.5	1.2	2.4	-	-	-	0.013	2.0	2.0
66 - 151	150:5	4.0	1.2	1.2	2.4	4.8	-	0.020	2.0	2.0
66 - 201	200:5	5.0	0.6	0.6	2.4	2.4	4.8	0.038	2.0	2.0
66 - 251	250:5	10.0	0.6	0.6	1.2	2.4	4.8	0.045	2.0	2.0
66 - 301	300:5	12.5	0.3	0.3	1.2	2.4	2.4	0.065	2.0	1.5
66 - 401	400:5	20.0	0.3	0.3	0.6	1.2	1.2	0.082	1.5	1.33
66 - 501	500:5	30.0	0.3	0.3	0.6	1.2	1.2	0.107	1.5	1.25
66 - 601	600:5	40.0	0.3	0.3	0.6	0.6	1.2	0.162	1.33	1.0
66 - 751	750:5	50.0	0.3	0.3	0.3	0.6	0.6	0.202	1.0	0.8
66 - 801	800:5	60.0	0.3	0.3	0.3	0.6	0.6	0.216	1.0	0.8

EXCITATION CURVE



Model 66

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 6A

APPLICATION:

Ammeters, wattmeters.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL.full wave

WINDOW DIAMETER:

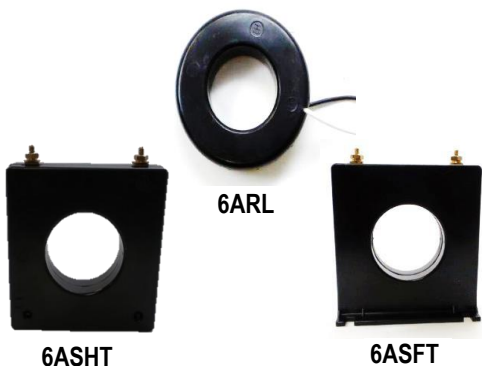
2.06"

APPROXIMATE WEIGHT:

1.25 lbs.

CONNECTIONS:

- Terminal and brass studs No. 8-32 with one flat washer, lockwasher, and regular nut
- Flexible leads are UL 1015 105°C, CSA approved, #16 AWG, 24" long.
- Non-standard, lead length can be specified.
- Mounting bracket 59-0223
- Model 6ASHT and model 6ASFT also available as 6ASHL and 6ASFL with leads



CERTIFICATIONS:



Model	6ASHT	6ASFT	6ARL
Window Size	2.06	2.06	2.06
Width	4.08	4.12	4.08
Height	4.22	4.22	4.08
Depth	1.10	1.10	1.10

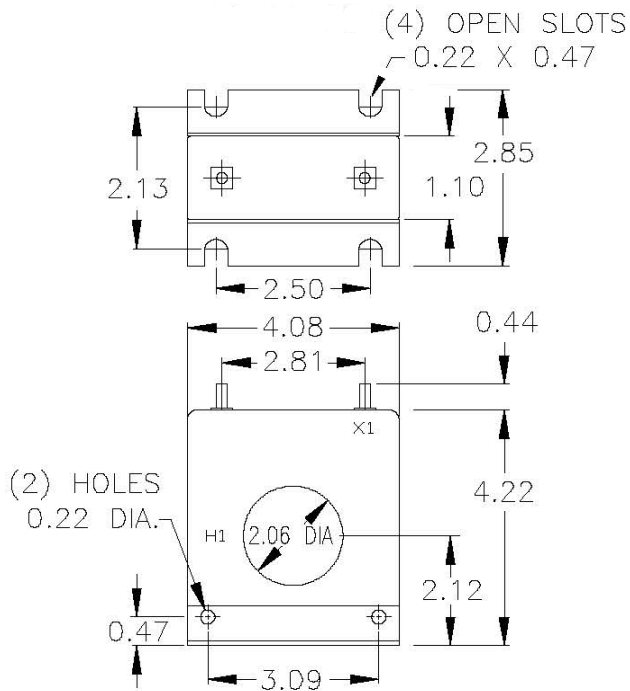
MODEL 6A
Window Diameter 2.06"
Approximate weight: 1.25 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. ± 1% CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
6A**-101	100:5	1.0	1.2	2.4	-	-	-	0.015	2.0	2.0
6A**-151	150:5	5.0	1.2	1.2	4.8	4.8	-	0.024	2.0	2.0
6A**-201	200:5	5.0	0.6	1.2	2.4	4.8	-	0.037	2.0	2.0
6A**-251	250:5	7.5	0.3	0.6	2.4	2.4	4.8	0.044	2.0	1.5
6A**-301	300:5	12.5	0.3	0.6	1.2	2.4	2.4	0.055	2.0	1.5
6A**-401	400:5	15.0	0.3	0.3	0.6	1.2	2.4	0.071	1.5	1.33
6A**-501	500:5	25.0	0.3	0.3	0.6	1.2	2.4	0.107	1.5	1.0
6A**-601	600:5	30.0	0.3	0.3	0.6	0.6	1.2	0.128	1.33	1.0
6A**-751	750:5	30.0	0.3	0.3	0.6	0.6	1.2	0.156	1.25	1.0
6A**-801	800:5	35.0	0.3	0.3	0.6	0.6	0.6	0.167	1.25	0.8
6A**-102	1000:5	35.0	0.3	0.3	0.3	0.6	0.6	0.208	1.0	0.8
6A**-122	1200:5	40.0	0.3	0.3	0.3	0.3	0.6	0.250	1.0	0.8
6A**-152	1500:5	50.0	0.3	0.3	0.3	0.3	0.6	0.388	1.0	0.8

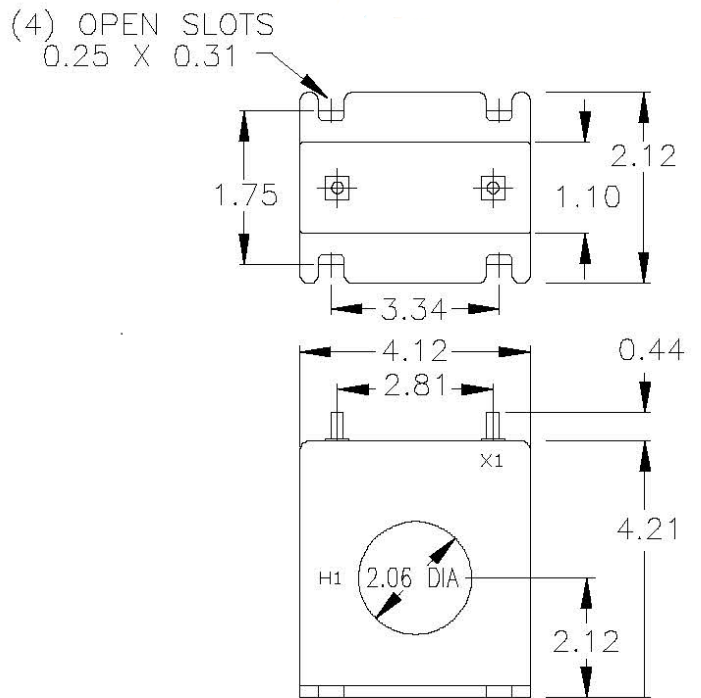
*Note: When ordering, prefix Cat No. with model designation, i.e. 6SHT-201, 6RL-301 etc.



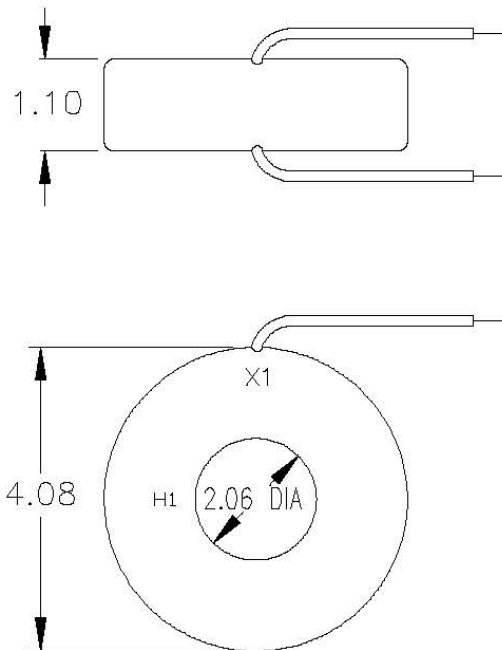
Model 6ASHT



Model 6ASFT



Model 6ARL





Current Transformer

Models 112, 113, 114, 115, 117



CERTIFICATIONS:



APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

2.25", 2.75", 3.25", 4.00", 4.62"

APPROXIMATE WEIGHT:

25, 23, 22, 19, 13 lbs.

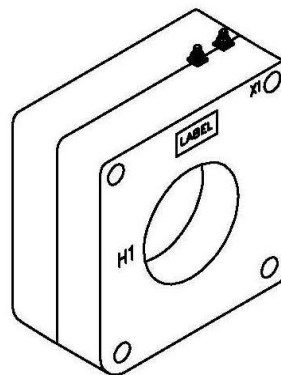
CONNECTIONS:

- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- Mounting kits 59-0215 (CR) and 59-0216 (CL)
- Multi-ratios available upon request

Model	112	113	114	115	117
Window Size	2.25	2.75	3.25	4.00	4.62
Width	7.00	7.00	7.00	7.00	7.00
Height	7.12	7.12	7.12	7.12	7.12
Depth	4.00	4.00	4.00	4.00	4.00

MODEL 112
Window Diameter 2.25"
Approximate weight: 25 lbs.

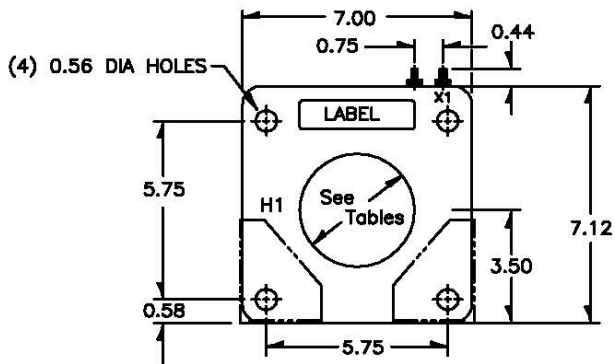
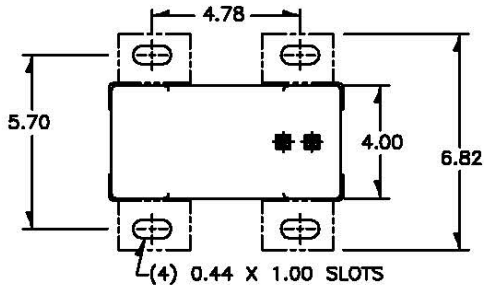
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
112-500	50:5	C10	1.2	2.4	-	-	-	0.029	2.0	2.0
112-750	75:5	C10	0.6	1.2	2.4	4.8	-	0.046	2.0	2.0
112-101	100:5	C20	0.6	0.6	2.4	2.4	4.8	0.062	2.0	2.0
112-151	150:5	C20	0.3	0.6	1.2	1.2	2.4	0.093	2.0	2.0
112-201	200:5	C50	0.3	0.3	0.3	0.6	1.2	0.124	2.0	2.0
112-251	250:5	C50	0.3	0.3	0.3	0.3	0.6	0.155	2.0	2.0
112-301	300:5	C50	0.3	0.3	0.3	0.3	0.6	0.186	2.0	2.0
112-401	400:5	C100	0.3	0.3	0.3	0.3	0.3	0.248	2.0	1.5
112-501	500:5	C100	0.3	0.3	0.3	0.3	0.3	0.341	2.0	1.5
112-601	600:5	C100	0.3	0.3	0.3	0.3	0.3	0.409	1.5	1.33
112-751	750:5	C200	0.3	0.3	0.3	0.3	0.3	0.495	1.5	1.0
112-801	800:5	C200	0.3	0.3	0.3	0.3	0.3	0.529	1.5	1.0
112-102	1000:5	C200	0.3	0.3	0.3	0.3	0.3	0.661	1.33	1.0
112-122	1200:5	C200	0.3	0.3	0.3	0.3	0.3	0.793	1.33	1.0



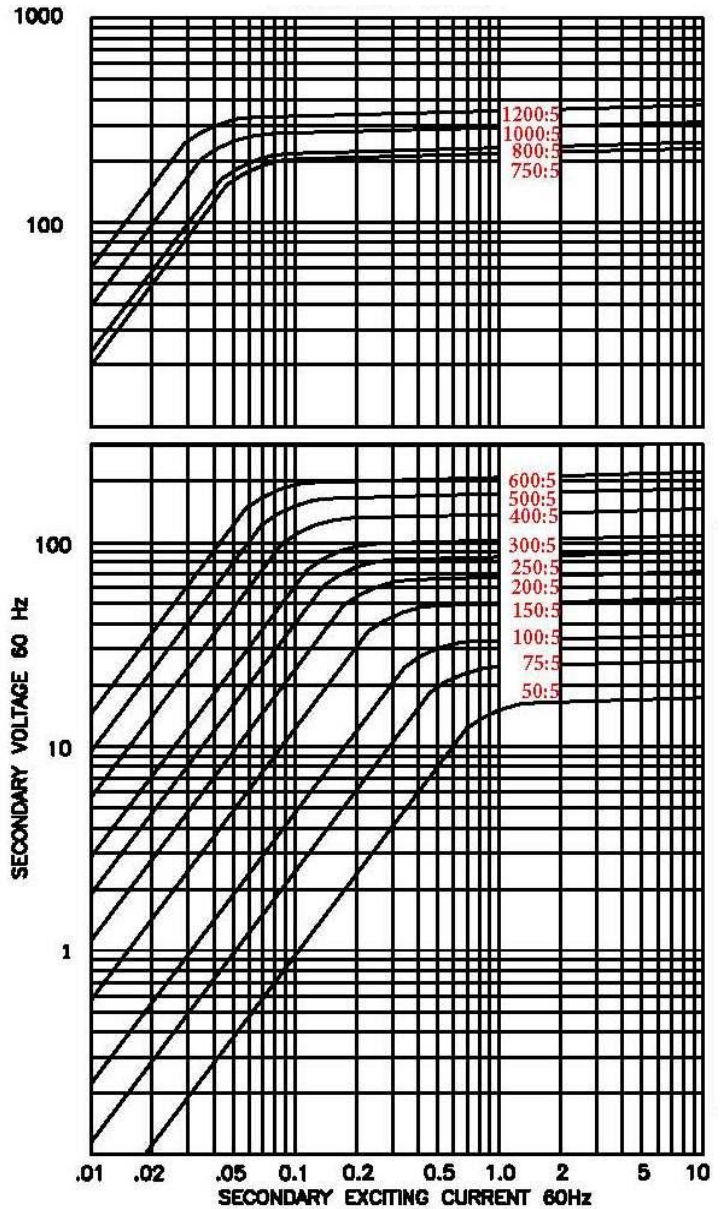
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Models 112, 113, 144, 115 & 116



EXCITATION CURVE



Model 112



TTL Transformer Technologies Ltd.



Current Transformer

Models 112, 113, 114, 115, 117

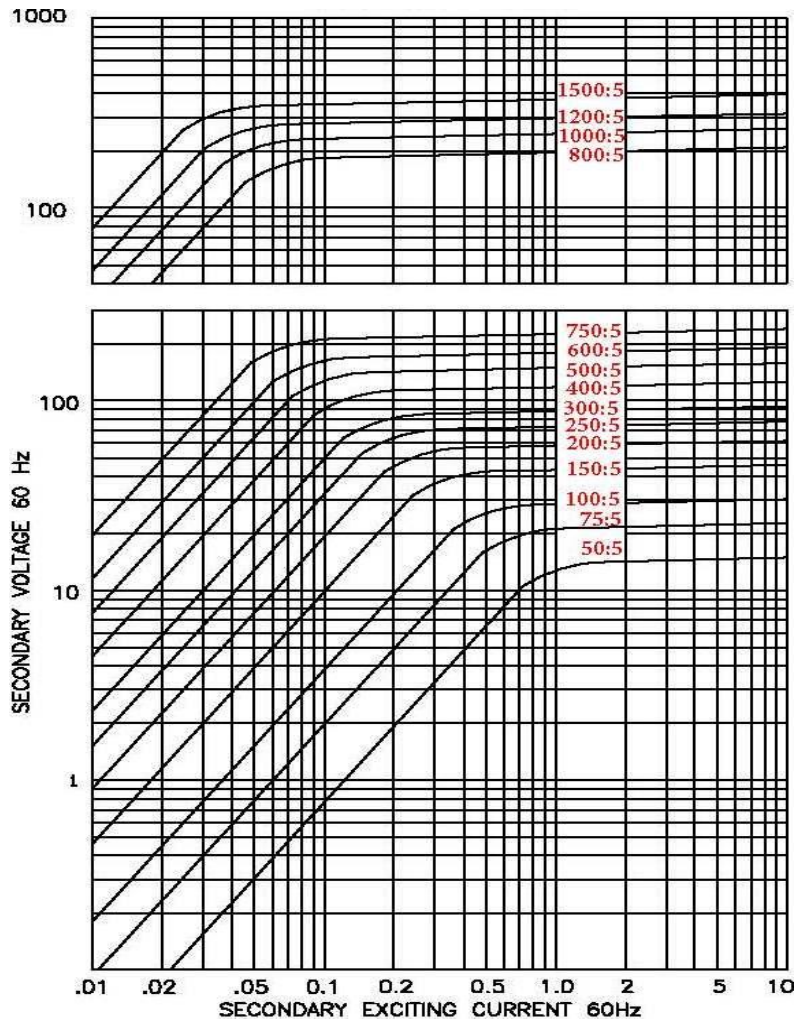
MODEL 113

Window Diameter 2.75"

Approximate weight: 23 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 50 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@ 30° C	@ 55° C
113 - 500	50:5	C10	2.4	4.8	-	-	-	0.033	2	2
113 - 750	75:5	C10	0.6	1.2	4.8	4.8	-	0.043	2	2
113 - 101	100:5	C20	0.6	0.6	2.4	2.4	4.8	0.059	2	2
113 - 151	150:5	C20	0.3	0.3	0.6	1.2	2.4	0.089	2	2
113 - 201	200:5	C20	0.3	0.3	0.6	0.6	1.2	0.118	2	2
113 - 251	250:5	C50	0.3	0.3	0.6	0.6	1.2	0.163	2	2
113 - 301	300:5	C50	0.3	0.3	0.3	0.6	1.2	0.195	2	2
113 - 401	400:5	C100	0.3	0.3	0.3	0.3	0.6	0.260	2	1.5
113 - 501	500:5	C100	0.3	0.3	0.3	0.3	0.3	0.325	2	1.5
113 - 601	600:5	C100	0.3	0.3	0.3	0.3	0.3	0.390	1.5	1.33
113 - 751	750:5	C200	0.3	0.3	0.3	0.3	0.3	0.488	1.5	1.0
113 - 801	800:5	C200	0.3	0.3	0.3	0.3	0.3	0.503	1.5	1.0
113 - 102	1000:5	C200	0.3	0.3	0.3	0.3	0.3	0.629	1.33	1.0
113 - 122	1200:5	C200	0.3	0.3	0.3	0.3	0.3	0.755	1.33	1.0
113 - 152	1500:5	C200	0.3	0.3	0.3	0.3	0.3	0.943	1.0	0.8

EXCITATION CURVE



Model 113

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



TTL Transformer Technologies Ltd.



Current Transformer

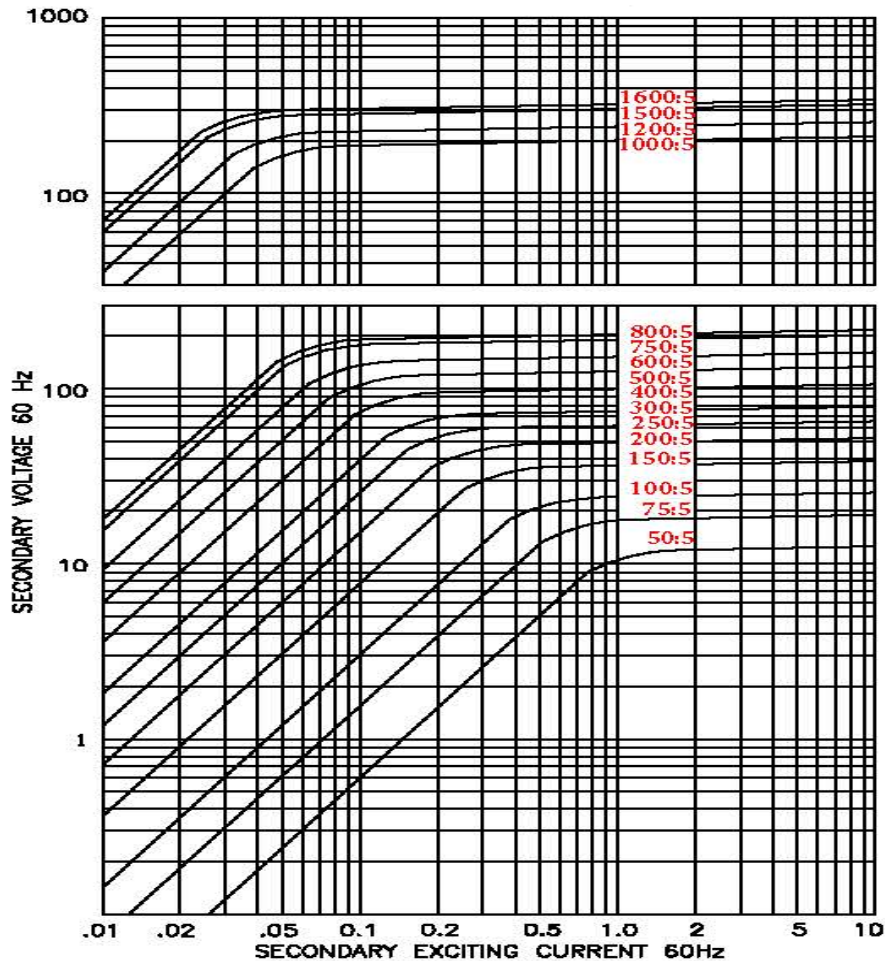
Models 112, 113, 114, 115, 117

MODEL 114

Window Diameter 3.25"
Approximate weight: 22 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@ 30° C	@ 55° C
114 - 500	50:5	-	1.2	4.8	-	-	-	0.024	2.0	2.0
114 - 750	75:5	C10	1.2	2.4	4.8	-	-	0.040	2.0	2.0
114 - 101	100:5	C10	1.2	1.2	2.4	4.8	-	0.055	2.0	2.0
114 - 151	150:5	C20	0.6	0.6	1.2	2.4	4.8	0.082	2.0	2.0
114 - 201	200:5	C20	0.3	0.3	0.6	1.2	2.4	0.112	2.0	2.0
114 - 251	250:5	C50	0.3	0.3	0.6	1.2	1.2	0.141	2.0	2.0
114 - 301	300:5	C50	0.3	0.3	0.6	0.6	1.2	0.165	2.0	2.0
114 - 401	400:5	C100	0.3	0.3	0.3	0.3	0.6	0.220	2.0	1.5
114 - 501	500:5	C100	0.3	0.3	0.3	0.3	0.6	0.267	2.0	1.5
114 - 601	600:5	C100	0.3	0.3	0.3	0.3	0.3	0.371	1.5	1.33
114 - 751	750:5	C100	0.3	0.3	0.3	0.3	0.3	0.464	1.5	1.0
114 - 801	800:5	C200	0.3	0.3	0.3	0.3	0.3	0.495	1.5	1.0
114 - 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.597	1.5	1.0
114 - 122	1200:5	C200	0.3	0.3	0.3	0.3	0.3	0.716	1.33	1.0
114 - 152	1500:5	C200	0.3	0.3	0.3	0.3	0.3	0.896	1.0	0.8
114 - 162	1600:5	C200	0.3	0.3	0.3	0.3	0.3	0.955	1.0	0.8

EXCITATION CURVE



Model 114

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



TTL Transformer Technologies Ltd.



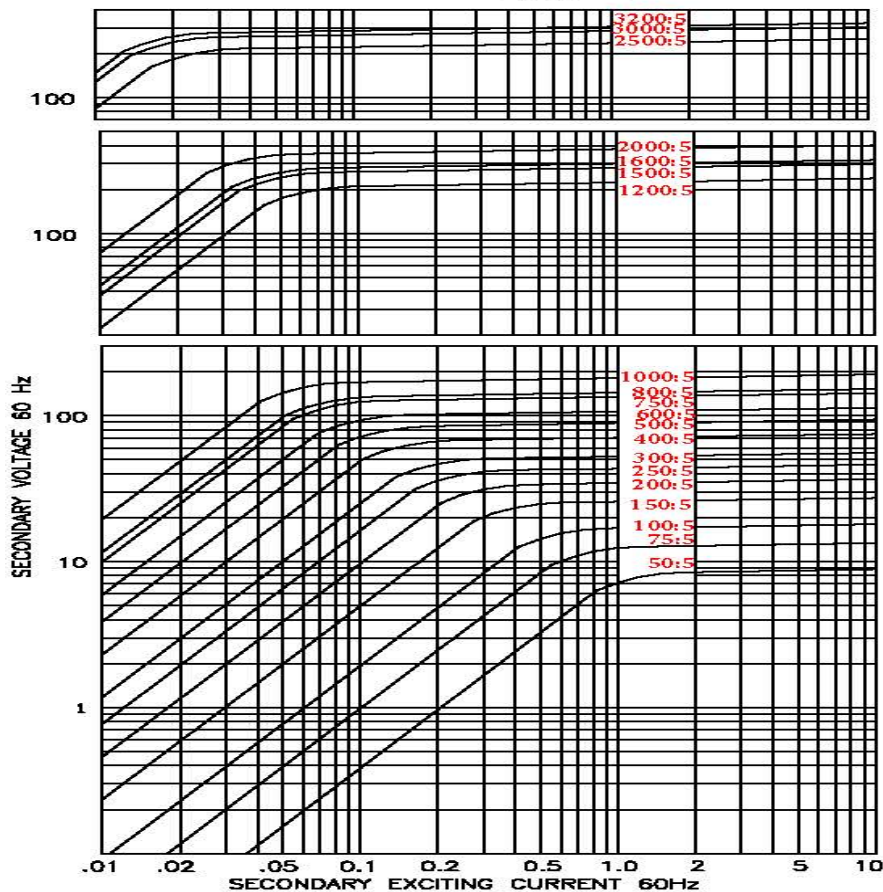
Current Transformer

Models 112, 113, 114, 115, 117

MODEL 115
Window Diameter 4.0"
Approximate weight: 19 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@ 30° C	@ 55° C
115 - 500	50:5	-	2.4	4.8	-	-	-	0.025	2.0	2.0
115 - 750	75:5	-	1.2	2.4	4.8	-	-	0.037	2.0	2.0
115 - 101	100:5	C10	1.2	1.2	2.4	4.8	-	0.046	2.0	2.0
115 - 151	150:5	C10	0.6	0.6	1.2	2.4	4.8	0.074	2.0	2.0
115 - 201	200:5	C20	0.3	0.3	0.6	1.2	2.4	0.099	2.0	2.0
115 - 251	250:5	C20	0.3	0.3	0.6	1.2	2.4	0.127	2.0	2.0
115 - 301	300:5	C20	0.3	0.3	0.3	0.6	1.2	0.148	2.0	2.0
115 - 401	400:5	C50	0.3	0.3	0.3	0.3	0.6	0.208	2.0	2.0
115 - 501	500:5	C50	0.3	0.3	0.3	0.3	0.3	0.247	2.0	1.5
115 - 601	600:5	C50	0.3	0.3	0.3	0.3	0.3	0.305	2.0	1.5
115 - 751	750:5	C100	0.3	0.3	0.3	0.3	0.3	0.428	1.5	1.33
115 - 801	800:5	C100	0.3	0.3	0.3	0.3	0.3	0.457	1.5	1.0
115 - 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.571	1.5	1.0
115 - 122	1200:5	C100	0.3	0.3	0.3	0.3	0.3	0.660	1.33	1.0
115 - 152	1500:5	C100	0.3	0.3	0.3	0.3	0.3	0.825	1.0	0.8
115 - 162	1600:5	C100	0.3	0.3	0.3	0.3	0.3	0.880	1.0	0.8
115 - 202	2000:5	C200	0.3	0.3	0.3	0.3	0.3	1.100	1.0	0.8
115 - 252	2500:5	C100	0.3	0.3	0.3	0.3	0.3	1.292	1.0	0.8
115 - 302	3000:5	C200	0.3	0.3	0.3	0.3	0.3	1.550	0.8	0.6
115 - 322	3200:5	C200	0.3	0.3	0.3	0.3	0.3	1.653	0.8	0.6

EXCITATION CURVE



MODEL 115

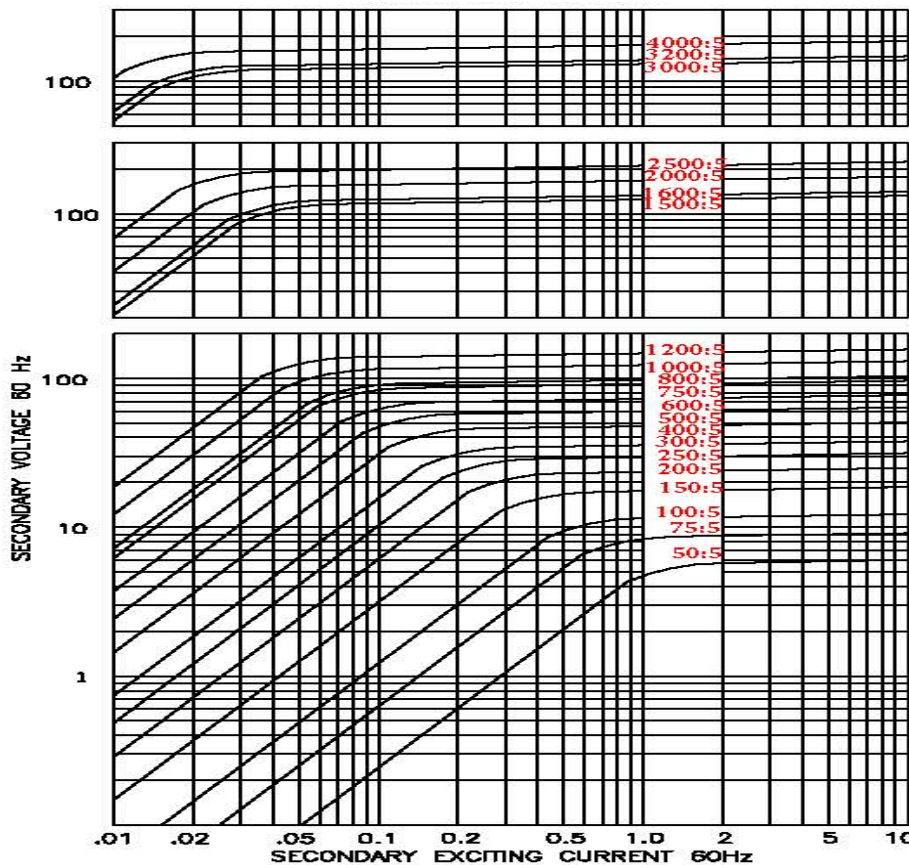
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



MODEL 117
Window Diameter 4.62"
Approximate weight: 13 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 Hz					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@ 30° C	@ 55° C
117 - 500	50:5	-	2.4	-	-	-	-	0.015	2.0	2.0
117 - 750	75:5	-	2.4	2.4	-	-	-	0.024	2.0	2.0
117 - 101	100:5	-	1.2	2.4	4.8	-	-	0.043	2.0	2.0
117 - 151	150:5	C10	0.6	0.6	2.4	4.8	4.8	0.069	2.0	2.0
117 - 201	200:5	C10	0.6	0.6	1.2	2.4	4.8	0.085	2.0	2.0
117 - 251	250:5	C20	0.6	0.6	0.6	1.2	2.4	0.106	2.0	2.0
117 - 301	300:5	C20	0.3	0.3	0.6	1.2	2.4	0.145	2.0	2.0
117 - 401	400:5	C20	0.3	0.3	0.3	0.6	1.2	0.184	2.0	2.0
117 - 501	500:5	C20	0.3	0.3	0.3	0.3	0.6	0.236	2.0	1.5
117 - 601	600:5	C20	0.3	0.3	0.3	0.3	0.6	0.283	2.0	1.5
117 - 751	750:5	C50	0.3	0.3	0.3	0.3	0.3	0.354	1.5	1.33
117 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.3	0.425	1.5	1.33
117 - 102	1000:5	C50	0.3	0.3	0.3	0.3	0.3	0.531	1.5	1.0
117 - 122	1200:5	C100	0.3	0.3	0.3	0.3	0.3	0.637	1.33	1.0
117 - 152	1500:5	C50	0.3	0.3	0.3	0.3	0.3	0.768	1.33	1.0
117 - 162	1600:5	C50	0.3	0.3	0.3	0.3	0.3	0.819	1.0	0.8
117 - 202	2000:5	C50	0.3	0.3	0.3	0.3	0.3	1.024	1.0	0.6
117 - 252	2500:5	C100	0.3	0.3	0.3	0.3	0.3	1.279	1.0	0.6
117 - 302	3000:5	-	0.3	0.3	0.3	0.3	0.3	1.428	1.0	0.6
117 - 322	3200:5	-	0.3	0.3	0.3	0.3	0.3	1.523	1.0	0.6
117 - 402	4000:5	-	0.3	0.3	0.3	0.3	0.3	2.385	0.8	0.6

EXCITATION CURVE



Model 117



Current Transformer

Model 7A

APPLICATION:

Ammeters and wattmeters

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

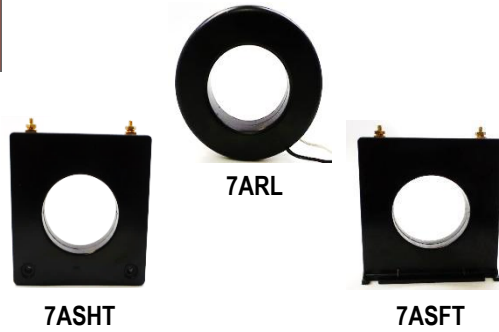
2.50"

APPROXIMATE WEIGHT:

1.5 lbs.

CONNECTIONS:

- Terminals are brass studs No. 8-32 with one flat washer, lockwasher, and regular nut
- Flexible leads are UL 1015 105° C, CSA approved, #16 AWG, 24" long
- Non-standard, lead length can be specified
- Order Mounting Bracket Kit 0221B00182 separately for model 7ASHT
- Model 7ASHT and model 7ASFT also available as 7ASHL and 7ASFL with leads



CERTIFICATIONS:



Model	7ASHT	7ASFT	7ARL
Window Size	2.50	2.50	2.50
Width	4.56	4.56	4.58
Height	4.85	4.85	4.58
Depth	1.10	1.08	1.10

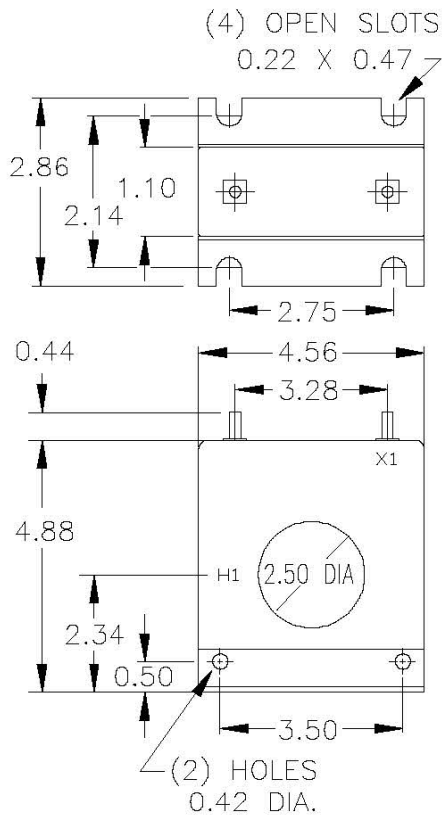
MODEL 7A
Window Diameter 2.50"
Approximate weight: 1.5 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. ± 1% CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
7A**-101	100:5	1.0	2.4	4.8	-	-	-	0.014	2.0	2.0
7A**-151	150:5	2.5	1.2	2.4	4.8	4.8	-	0.025	2.0	2.0
7A**-201	200:5	5.0	0.6	1.2	2.4	4.8	4.8	0.035	2.0	2.0
7A**-251	250:5	7.5	0.3	0.6	1.2	2.4	4.8	0.043	2.0	2.0
7A**-301	300:5	12.5	0.3	0.6	1.2	2.4	2.4	0.052	2.0	1.5
7A**-401	400:5	15.0	0.3	0.3	0.6	1.2	2.4	0.069	2.0	1.5
7A**-501	500:5	25.0	0.3	0.3	0.6	1.2	1.2	0.108	1.5	1.0
7A**-601	600:5	30.0	0.3	0.3	0.6	0.6	1.2	0.130	1.5	1.0
7A**-751	750:5	30.0	0.3	0.3	0.3	0.6	0.6	0.163	1.33	1.0
7A**-801	800:5	35.0	0.3	0.3	0.3	0.6	0.6	0.173	1.33	1.0
7A**-102	1000:5	35.0	0.3	0.3	0.3	0.6	0.6	0.157	1.33	1.0
7A**-122	1200:5	40.0	0.3	0.3	0.3	0.3	0.6	0.234	1.0	1.0
7A**-152	1500:5	50.0	0.3	0.3	0.3	0.3	0.6	0.292	1.0	0.8
7A**-162	1600:5	50.0	0.3	0.3	0.3	0.3	0.6	0.312	1.0	0.8

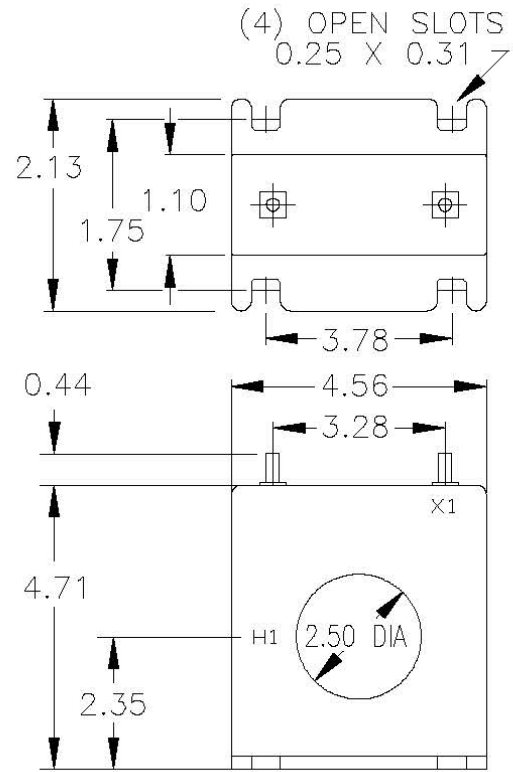
**NOTE: When ordering, prefix Cat. No. with model designation required i.e. 7ASHT-201, 7ARL-301, etc.



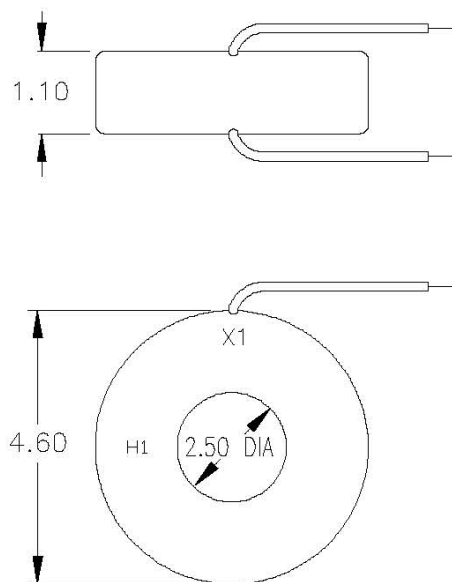
MODEL 7ASHT



MODEL 7SFT



MODEL 7RL





Current Transformer

Model 180

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

2.50"

CONNECTIONS:

- Non-standard lead length can be specified.
- Mounting bracket -59-0225
- Flexible leads are UL 1015 105° C CSA approved, #16 AWG, 24" long
- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut

APPROXIMATE WEIGHT:

3 lbs.



180SHT



180RL

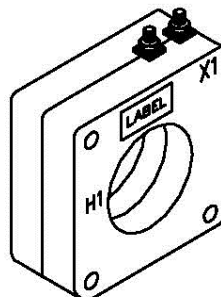
Model	180SHT	180RL
Window Size	2.50	2.50
Width	4.50	4.50
Height	4.50	4.50
Depth	2.19	2.19

CERTIFICATIONS:

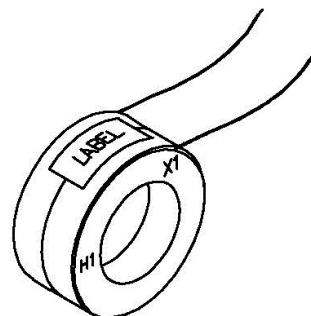


MODEL 180
Window Diameter 2.50"
Approximate weight: 3 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
180 **---500	50:5	1.5	2.4	-	-	-	-	0.009	1.33	1
180 **---750	75:5	2.5	1.2	2.4	-	-	-	0.018	1.33	1
180 **---101	100:5	2.5	1.2	2.4	4.8	-	-	0.021	1.33	1
180 **---151	150:5	5	0.6	1.2	2.4	4.8	-	0.038	1.33	1
180 **---201	200:5	12.5	0.6	0.6	1.2	2.4	-	0.051	1.33	1
180 **---251	250:5	12.5	0.3	0.3	0.6	1.2	-	0.064	1.33	1
180 **---301	300:5	25	0.3	0.3	0.6	1.2	2.4	0.076	1.33	1
180 **---401	400:5	50	0.3	0.3	0.3	0.6	1.2	0.102	1.33	1
180 **---501	500:5	50	0.3	0.3	0.3	0.6	1.2	0.148	1.33	1
180 **---601	600:5	50	0.3	0.3	0.3	0.6	1.2	0.177	1.33	1
180 **---751	750:5	50	0.3	0.3	0.3	0.6	1.2	0.174	1.33	1
180 **---801	800:5	75	0.3	0.3	0.3	0.6	1.2	0.202	1.33	1
180 **---102	1000:5	100	0.3	0.3	0.3	0.3	0.6	0.253	1.33	1
180 **---122	1200:5	125	0.3	0.3	0.3	0.3	0.3	0.303	1.33	1
180 **---152	1500:5	160	0.3	0.3	0.3	0.3	0.3	0.307	1.33	1
180 **---162	1600:5	175	0.3	0.3	0.3	0.3	0.3	0.359	1.25	1
180 **---202	2000:5	200	0.3	0.3	0.3	0.3	0.3	0.449	1.00	0.75



180SHT

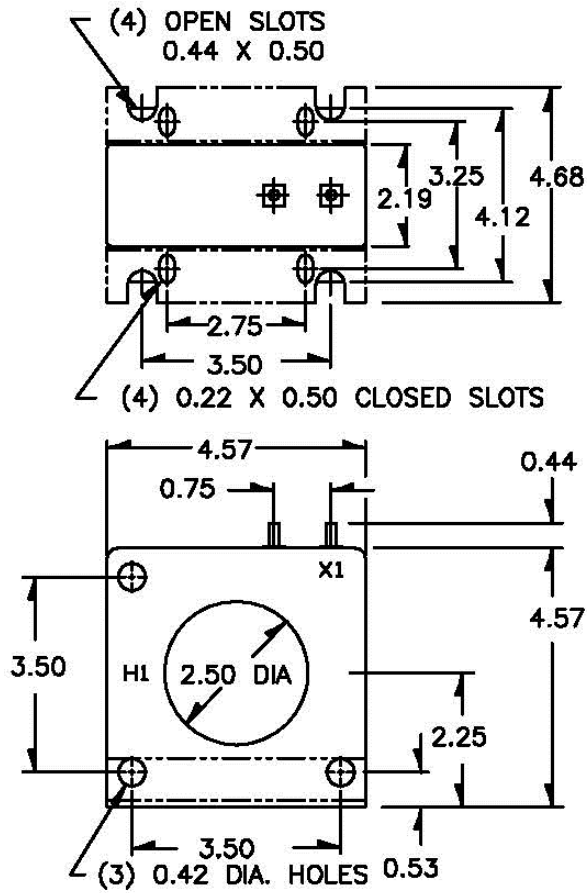


180RL

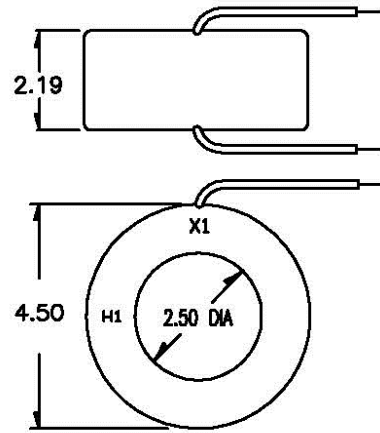
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



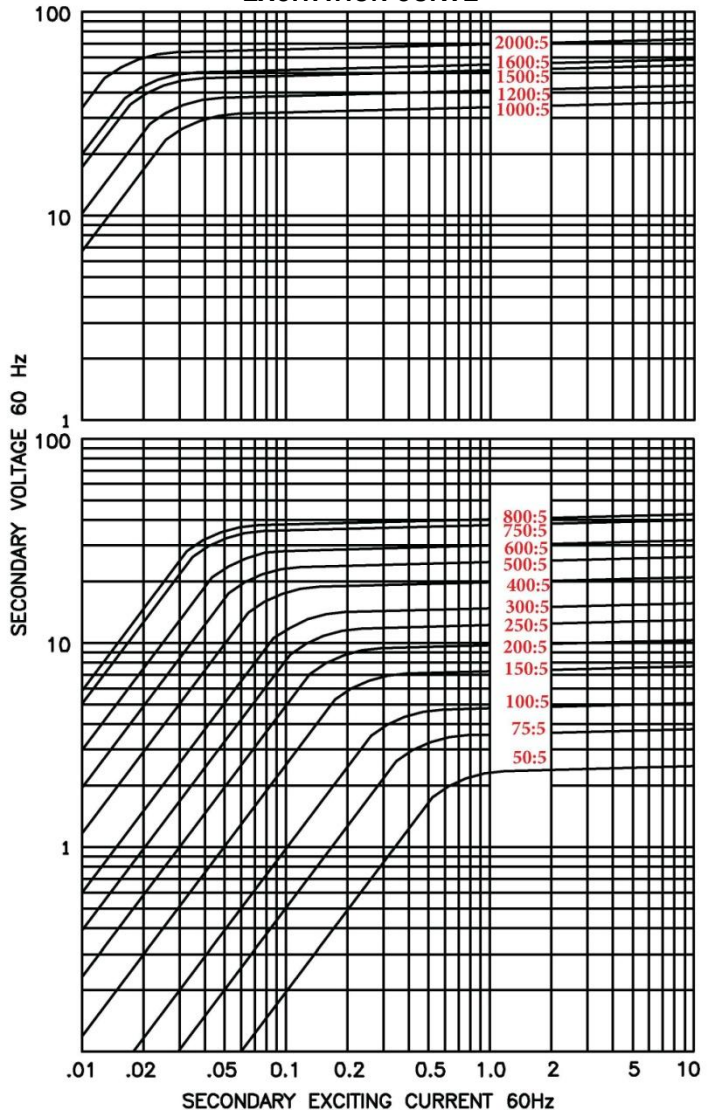
180SHT



180RL



EXCITATION CURVE



Model 180



Current Transformer

Model 8

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

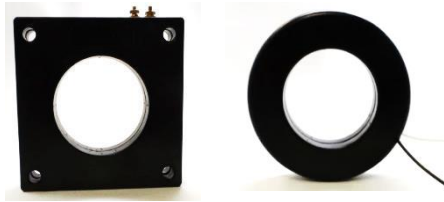
3.25"

APPROXIMATE WEIGHT:

2.5 lbs.

CONNECTIONS:

- Flexible Leads are UL 1015 105°C, CSA approved #16 AWG, 24" long
- Non-standard length to be specified
- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- SHT case styles also available with Leads
- Order Mounting Bracket Kit E separately when required for Model 8SHT
- Mounting Kit 59-0220



8SHT

8RL

Model	8SHT	8RL
Window Size	3.25	3.25
Width	5.73	5.73
Height	5.73	5.73
Depth	1.15	1.15

CERTIFICATIONS:



MODEL 8SHT and 8RL
Window Diameter 3.25"
 Approximate weight: 2.5 lbs.

CATALOG NUMBER	CURRENT RATIO	VA FOR ± 1% CLASS	ANSI METERING CLASS AT 60HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			BO.1	BO.2	BO.5	BO.9	B1.8		@ 30° C	@ 55° C
8**-201	200:5	5	1.2	1.2	2.4	4.8	4.8	0.03	2	2
8**-251	250:5	7.5	0.6	0.6	1.2	2.4	4.8	0.044	2	2
8**-301	300:5	15	0.6	0.6	1.2	2.4	2.4	0.049	2	2
8**-401	400:5	25	0.3	0.3	0.6	1.2	2.4	0.079	2	1.5
8**-501	500:5	35	0.3	0.3	0.6	0.6	1.2	0.102	2	1.5
8**-601	600:5	50	0.3	0.3	0.6	0.6	1.2	0.147	1.5	1.33
8**-751	750:5	50	0.3	0.3	0.6	0.6	1.2	0.184	1.5	1
8**-801	800:5	60	0.3	0.3	0.3	0.6	0.6	0.197	1.5	1
8**-102	1000:5	75	0.3	0.3	0.3	0.6	0.6	0.246	1.33	1
8**-122	1200:5	75	0.3	0.3	0.3	0.3	0.6	0.169	1.5	1
8**-152	1500:5	90	0.3	0.3	0.3	0.3	0.6	0.316	1.33	1
8**-162	1600:5	100	0.3	0.3	0.3	0.3	0.6	0.337	1.33	0.8
8**-202	2000:5	120	0.3	0.3	0.3	0.3	-	0.422	1	0.8
8**-252	2500:5	50	0.3	0.3	0.3	0.3	-	0.438	1	0.8
8**-302	3000:5	60	0.3	0.3	0.3	0.3	-	0.526	1	0.8
8**-322	3200:5	70	0.3	0.3	0.3	0.3	-	0.561	1	0.8

Note: When ordering, Prefix Cat. No. with model designation required, i.e. 8RL-301 or 8SHT-301



8SHT

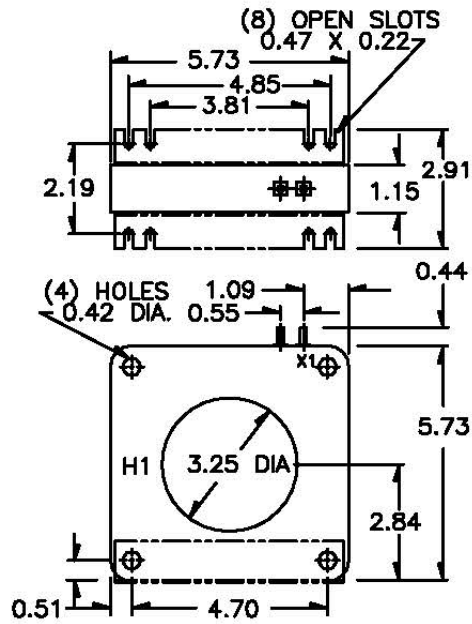


8RL

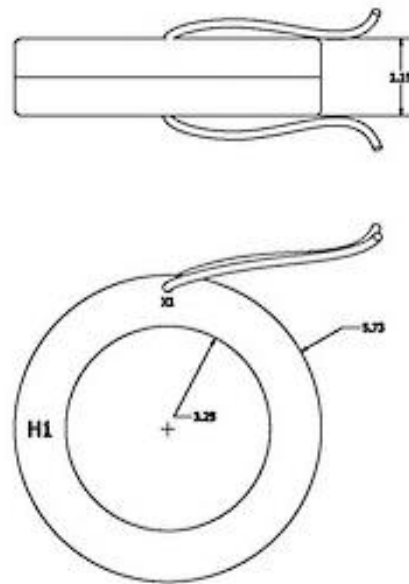
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



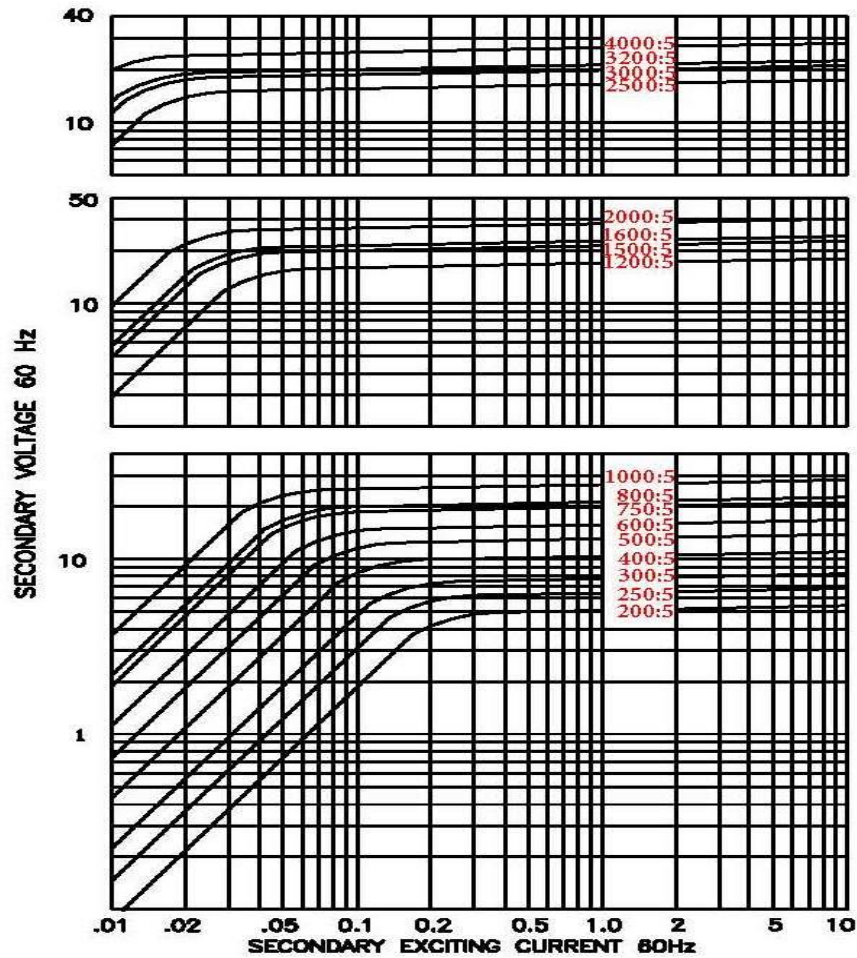
8SHT



8RL



EXCITATION CURVE



Model 8



Current Transformer

Model 100

APPLICATION:

Relaying and Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

4.0"

APPROXIMATE WEIGHT:

9.5 lbs.

CONNECTIONS:

- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Mounting Kit – 59-0215 (CR) and 59-0216 (CL)



Model	100
Window Size	4.00
Width	7.00
Height	7.00
Depth	2.17

CERTIFICATIONS:



E228202



223647

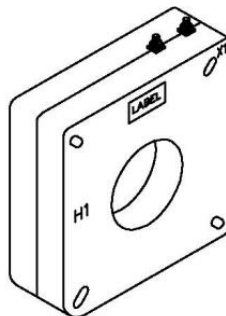


ISO 9001
Registered

Quality
Management

MODEL 100
Window Diameter 4.0"
Approximate weight: 9.5 lbs.

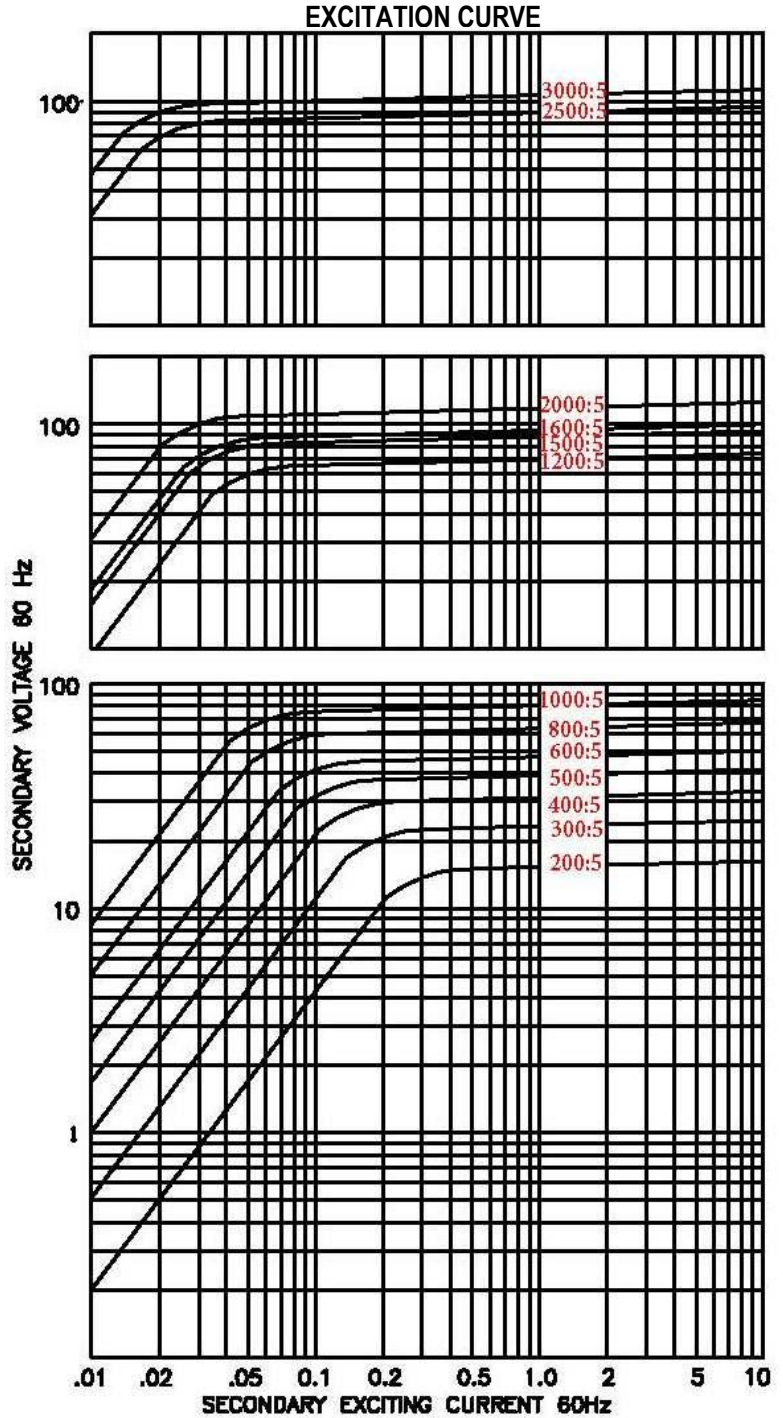
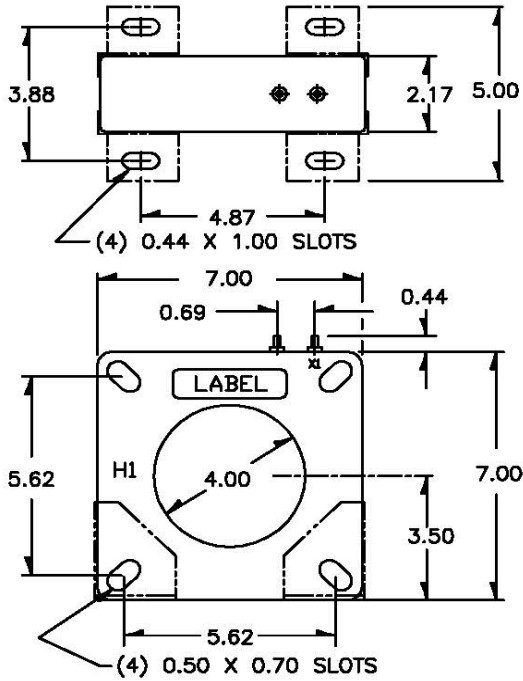
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
100 – 201	200:5	C10	0.6	0.6	1.2	2.4	-	0.057	2	2
100 – 301	300:5	C10	0.3	0.3	0.6	1.2	-	0.091	2	2
100 – 401	400:5	C20	0.3	0.3	0.6	0.6	1.2	0.133	2	2
100 – 501	500:5	C20	0.3	0.3	0.6	0.6	1.2	0.166	2	1.5
100 – 601	600:5	C20	0.3	0.3	0.3	0.6	0.6	0.199	2	1.5
100 – 801	800:5	C20	0.3	0.3	0.3	0.3	0.6	0.266	1.5	1.33
100 – 102	1000:5	C50	0.3	0.3	0.3	0.3	0.3	0.332	1.5	1
100 – 122	1200:5	C20	0.3	0.3	0.3	0.3	0.3	0.374	1.5	1
100 – 152	1500:5	C20	0.3	0.3	0.3	0.3	0.3	0.468	1.33	1
100 – 162	1600:5	C50	0.3	0.3	0.3	0.3	0.3	0.499	1.33	1
100 – 202	2000:5	C50	0.3	0.3	0.3	0.3	0.3	0.624	1	0.8
100 – 252	2500:5	C50	0.3	0.3	0.3	0.3	0.3	0.735	1	0.8
100 – 302	3000:5	C50	0.3	0.3	0.3	0.3	0.3	0.882	1	0.8



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Model 100



Model 100



Current Transformer

Model 110



CERTIFICATIONS:



APPLICATION:

Relaying and Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

4.0"

APPROXIMATE WEIGHT:

13 lbs.

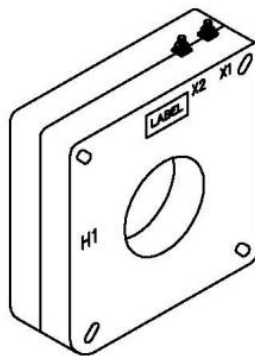
CONNECTIONS:

- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher and regular nut
- Mounting Bracket's 59-0215 (CR) and 59-0216 (CL)

Model	110
Window Size	4.00
Width	7.00
Height	7.00
Depth	2.88

MODEL 110
Window Diameter 4.0"
Approximate weight: 13 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
110 - 201	200:5	C10	0.6	1.2	1.2	2.4	-	0.085	2	2
110 - 301	300:5	C20	0.3	0.6	0.6	1.2	2.4	0.128	2	2
110 - 401	400:5	C20	0.3	0.3	0.3	0.6	1.2	0.152	2	2
110 - 501	500:5	C20	0.3	0.3	0.3	0.6	0.6	0.214	2	1.5
110 - 601	600:5	C50	0.3	0.3	0.3	0.3	0.6	0.256	2	1.5
110 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.3	0.342	1.5	1.33
110 - 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.427	1.5	1
110 - 122	1200:5	C50	0.3	0.3	0.3	0.3	0.3	0.489	1.5	1
110 - 152	1500:5	C100	0.3	0.3	0.3	0.3	0.3	0.611	1.33	1
110 - 162	1600:5	C100	0.3	0.3	0.3	0.3	0.3	0.652	1	1
110 - 202	2000:5	C100	0.3	0.3	0.3	0.3	0.3	0.815	1	0.8
110 - 252	2500:5	C100	0.3	0.3	0.3	0.3	0.3	0.974	1	0.8
110 - 302	3000:5	C100	0.3	0.3	0.3	0.3	0.3	1.168	1	0.6



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



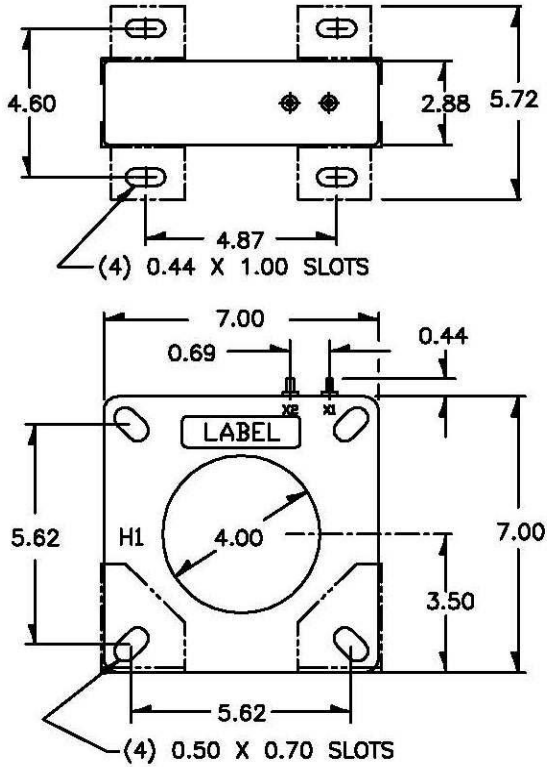
TTL Transformer Technologies Ltd.



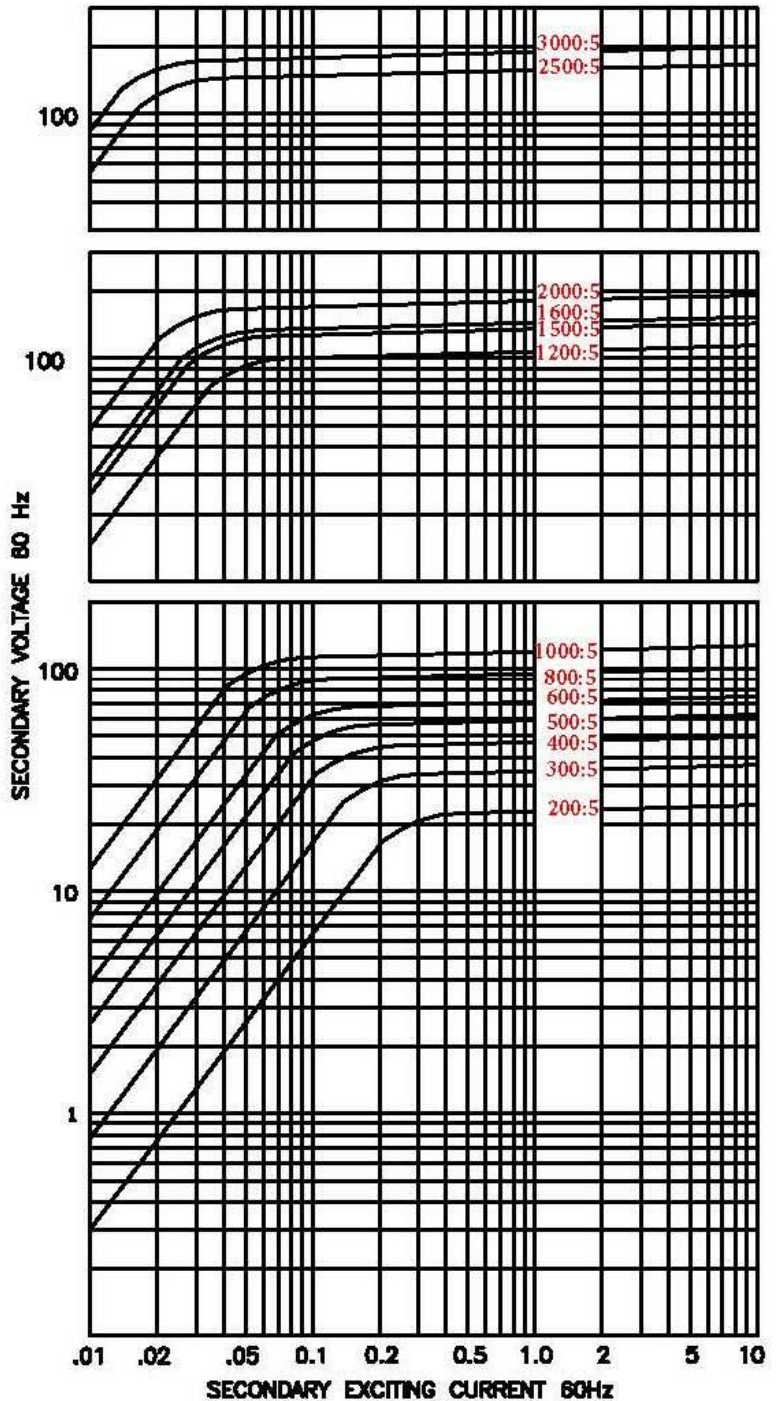
Current Transformer

Model 110

Model 110



EXCITATION CURVE



Model 110



Current Transformer

Model 115MR

APPLICATION:

Relaying

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

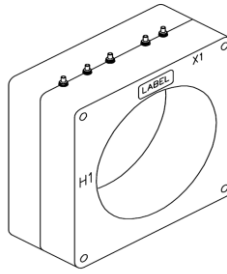
4.0"

APPROXIMATE WEIGHT:

19 lbs.

CONNECTIONS:

- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- The transformer winding is arranged so that the turns are fully distributed between all taps



Model	115MR
Window Size	4.00
Width	7.00
Height	7.12
Depth	4.00

CERTIFICATIONS:



E228202

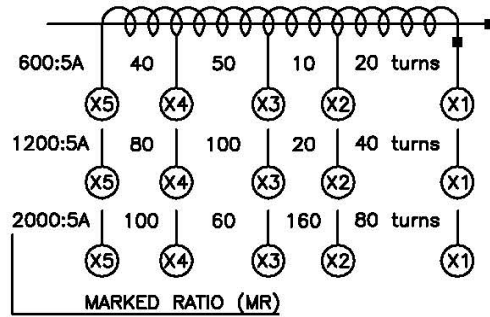
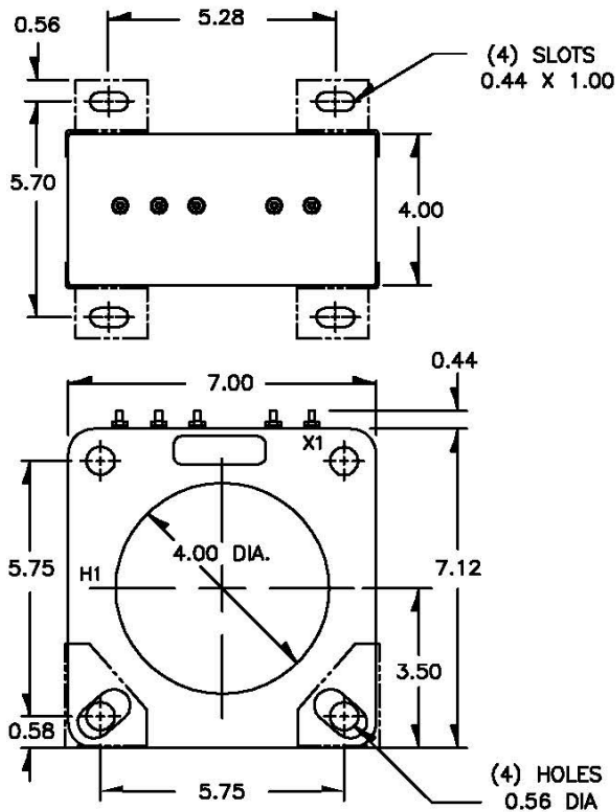


223647



MODEL 115MR
Window Diameter 4.0"
Approximate weight: 19 lbs.

Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
115-601MR	C50	2.0	1.5
115-122MR	C100	1.33	1.0
115-202MR	C200	1.0	0.8



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



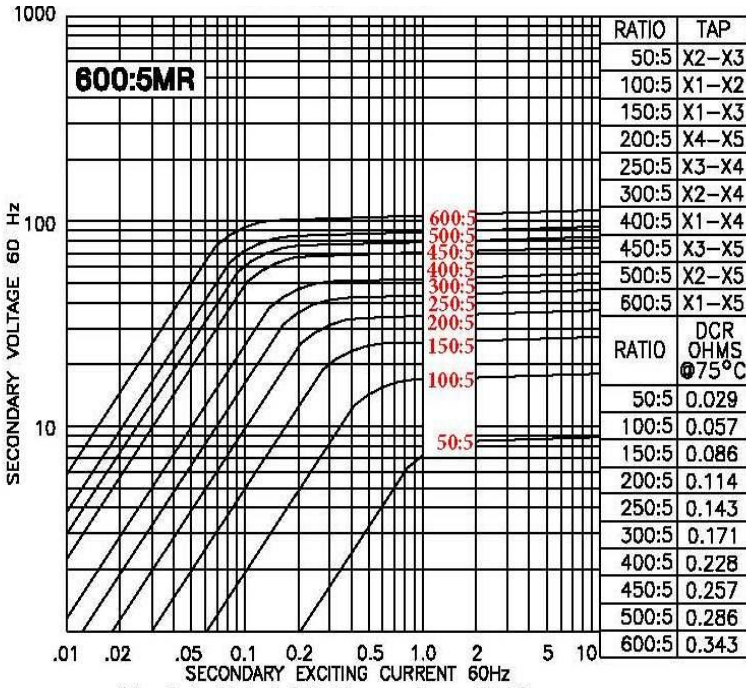
TTL Transformer Technologies Ltd.



Current Transformer

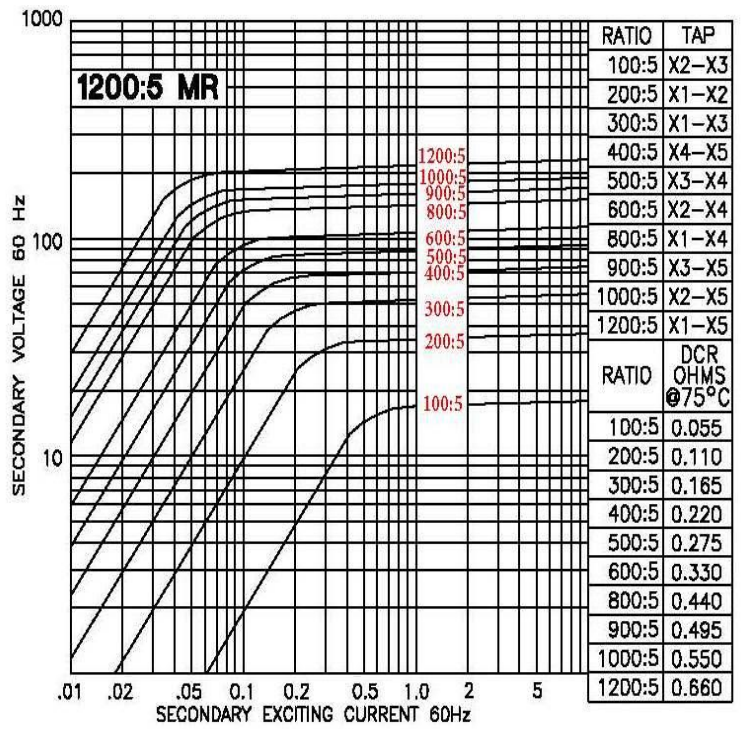
Model 115MR

EXCITATION CURVE



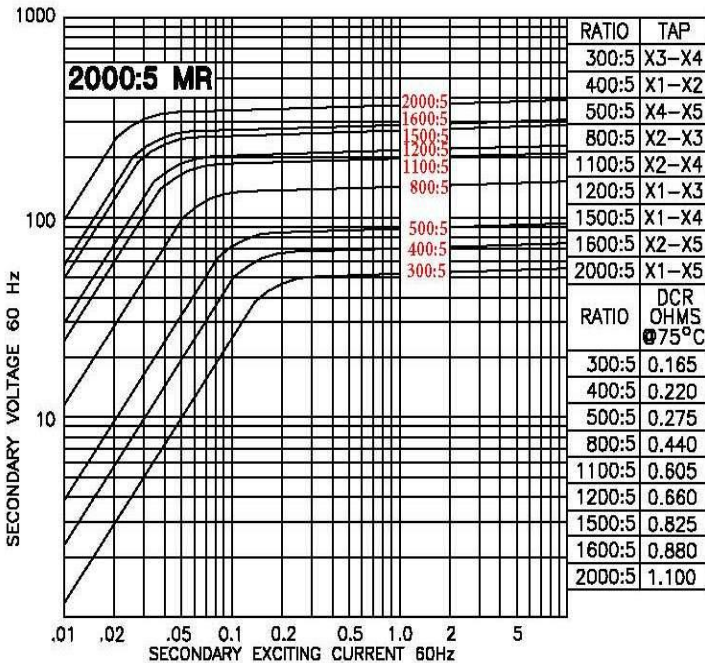
Model 115-601MR- rating C50

TRF= 2.00 @ 30°C, 1.5 @ 55°C amb.



Model 115-122MR - rating C100

TRF= 1.33 @ 30°C, 1.0 @ 55°C amb.



Model 115-202MR - rating C200

TRF= 1.00 @ 30°C, 0.8 @ 55°C amb.



Current Transformer

Model 19

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

4.25"

APPROXIMATE WEIGHT:

3 lbs.

CONNECTIONS:

- Flexible Leads are UL 1015 105°C, CSA approved #16AWG, 24" long
- Non-standard length to be specified
- SHT Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut



19SHT



19RL

CERTIFICATIONS:

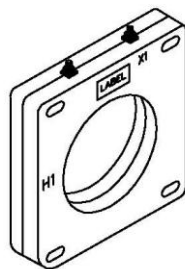


Model	19SHT	19RL
Window Size	4.25	4.25
Width	6.00	5.92
Height	6.17	5.92
Depth	1.15	1.13

MODEL 19SHT and 19RL
Window Diameter 4.25"
Approximate weight: 3 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75° C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
19**-301	300:5	4	0.6	1.2	2.4	-	-	0.048	2	2
19**-401	400:5	10	0.3	0.6	1.2	-	-	0.064	2	2
19**-501	500:5	15	0.3	0.6	1.2	-	-	0.087	2	1.5
19**-601	600:5	15	0.3	0.3	0.6	1.2	-	0.116	2	1.5
19**-751	700:5	25	0.3	0.3	0.6	0.6	-	0.145	1.5	1.33
19**-801	800:5	30	0.3	0.3	0.6	0.6	-	0.155	1.5	1.33
19**-102	1000:5	30	0.3	0.3	0.6	0.6	-	0.242	1.33	1
19**-122	1200:5	40	0.3	0.3	0.3	0.6	-	0.291	1.33	1
19**-152	1500:5	15	0.3	0.3	0.6	1.2	-	0.200	1.5	1
19**-162	1600:5	15	0.3	0.3	0.3	0.6	-	0.213	1.5	1
19**-202	2000:5	20	0.3	0.3	0.3	0.6	-	0.266	1.33	1
19**-252	2500:5	20	0.3	0.3	0.3	0.3	-	0.333	1	0.8
19**-302	3000:5	25	0.3	0.3	0.3	0.3	-	0.399	1	0.8

Note: When ordering, prefix catalog number with model designation required., i.e. 19RL-301, or 19SHT-301 etc.



19SHT

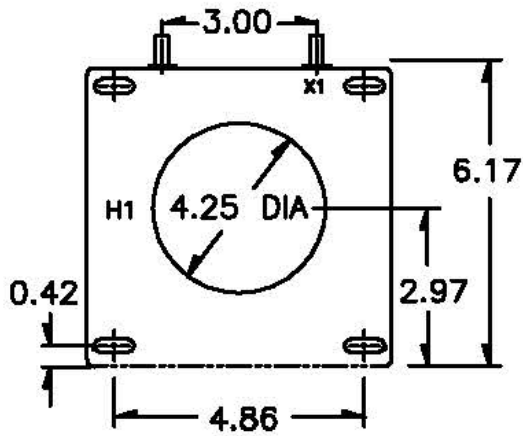


19RL

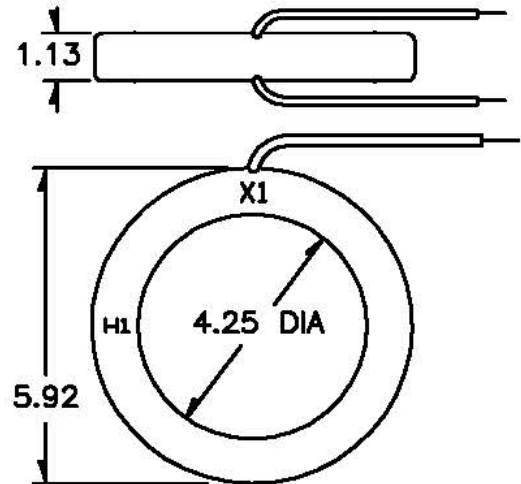
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



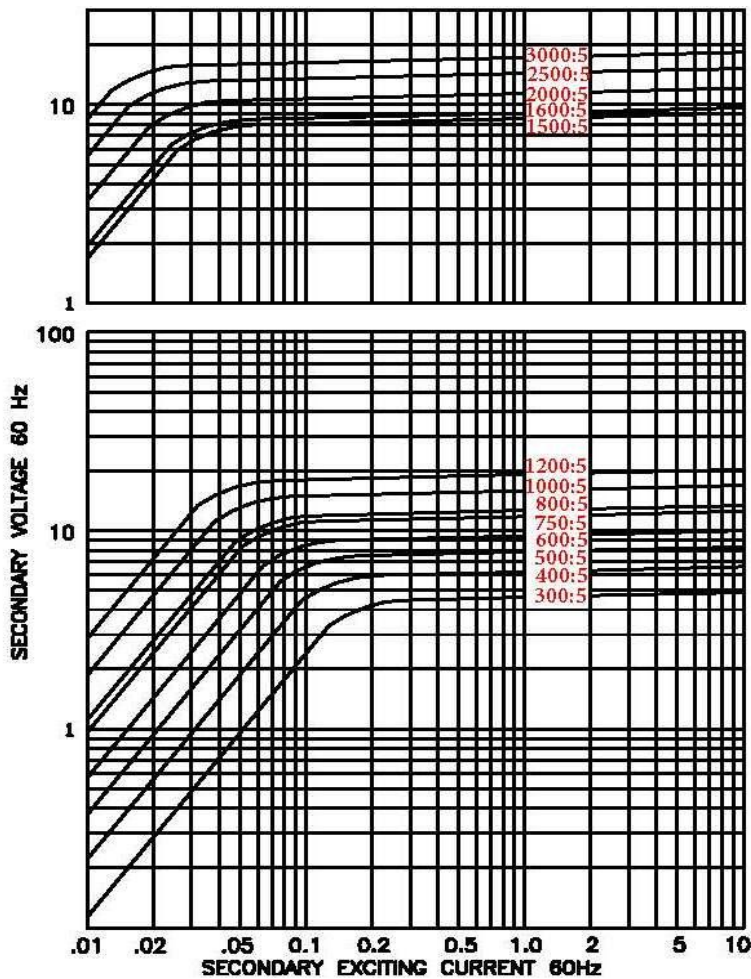
19SHT



19RL



EXCITATION CURVE





Current Transformer

Model 170

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

4.25"

APPROXIMATE WEIGHT:

3 lbs.

CONNECTIONS:

-Flexible leads are UL 1015 105° C CSA approved, #16 AWG, 24" long

-Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut

-Also available as 170SHL with leads

Mounting kit – 59-0221



170SHT

170RL

Model	170SHT	170RL
Window Size	4.25	4.25
Width	6.73	6.73
Height	6.73	6.73
Depth	1.28	1.25

CERTIFICATIONS:



MODEL 170
Window Diameter 4.25"
Approximate weight: 3 lbs.

CATALOG NUMBER	CURRENT RATIO	V.A. FOR ± 1% CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
170 **---201	200:5	5	0.6	1.2	2.4	-	-	0.040	2	2
170 **---251	250:5	5	0.6	0.6	1.2	2.4	-	0.047	2	2
170 **---301	300:5	12.5	0.6	0.6	1.2	2.4	-	0.053	2	2
170 **---401	400:5	25	0.3	0.3	0.6	1.2	2.4	0.080	2	2
170 **---501	500:5	25	0.3	0.3	0.6	1.2	1.2	0.110	2	1.5
170 **---601	600:5	25	0.3	0.3	0.6	0.6	1.2	0.121	2	1.5
170 **---751	750:5	40	0.3	0.3	0.3	0.6	0.6	0.151	2	1.5
170 **---801	800:5	50	0.3	0.3	0.3	0.6	0.6	0.162	2	1.5
170 **---102	1000:5	75	0.3	0.3	0.3	0.6	0.6	0.265	1.33	1
170 **---122	1200:5	100	0.3	0.3	0.3	0.3	0.6	0.318	1.33	1
170 **---152	1500:5	80	0.3	0.3	0.3	0.3	0.6	0.344	1.33	1
170 **---162	1600:5	90	0.3	0.3	0.3	0.3	0.6	0.367	1.33	1
170 **---202	2000:5	100	0.3	0.3	0.3	0.3	0.3	0.459	1	0.8
170 **---252	2500:5	130	0.3	0.3	0.3	0.3	0.3	0.573	1	0.8
170 **---302	3000:5	160	0.3	0.3	0.3	0.3	0.3	0.424	1	1
170 **---352	3500:5	190	0.3	0.3	0.3	0.3	0.3	0.495	1	0.8
170 **---402	4000:5	200	0.3	0.3	0.3	0.3	0.3	0.646	1	0.8

Note: When ordering, prefix ** catalog # with model designation required, i.e. 170SHT-201, or 170RL-301



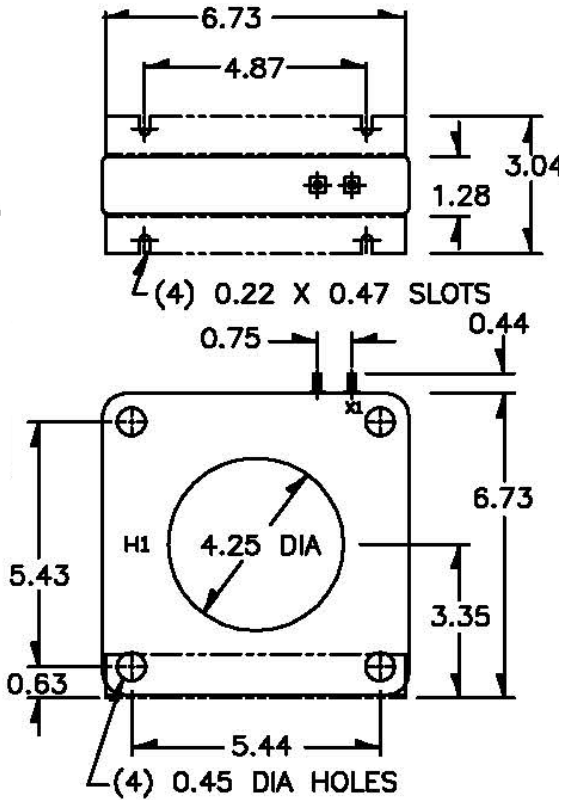
TTL Transformer Technologies Ltd.



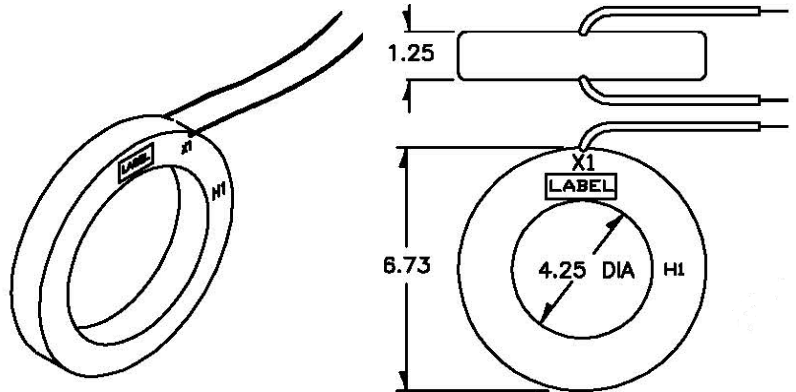
Current Transformer

Model 170

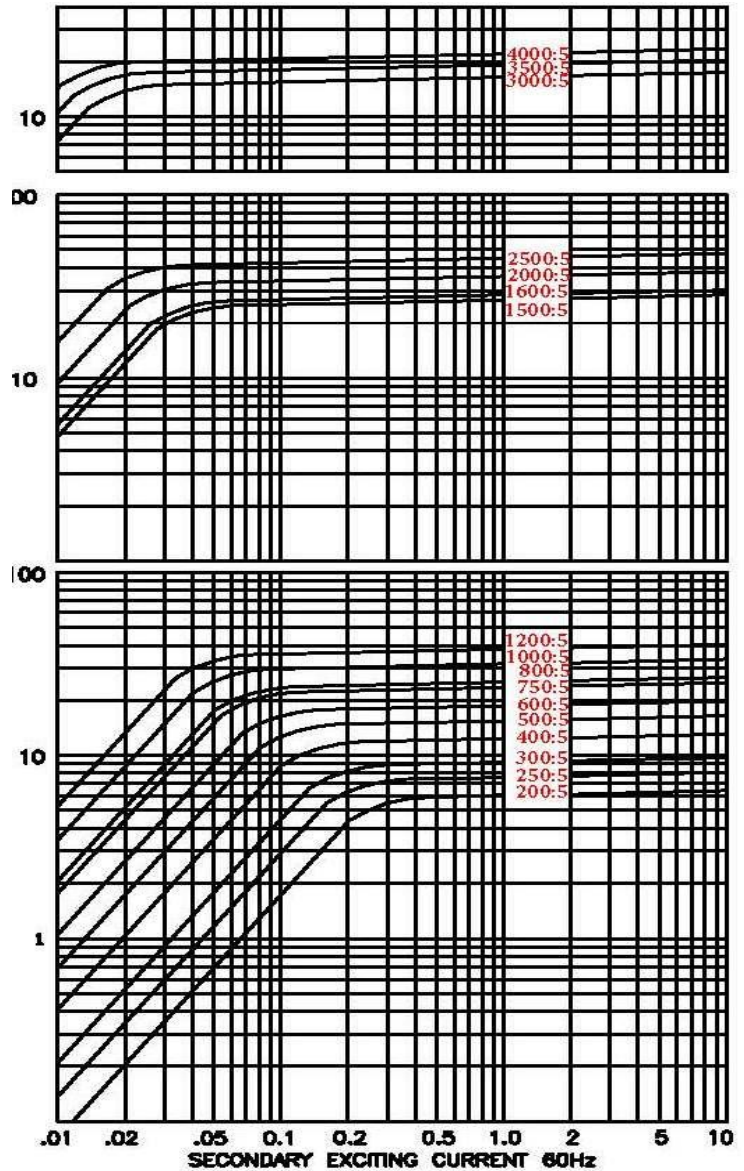
170SHT



170RL



EXCITATION CURVE



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 117MR

APPLICATION:

Relaying

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

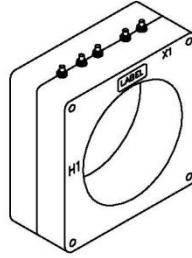
4.62"

APPROXIMATE WEIGHT:

13 lbs.

CONNECTIONS:

- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- The transformer winding is arranged so that the turns are fully distributed between all taps



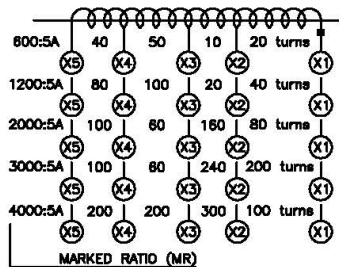
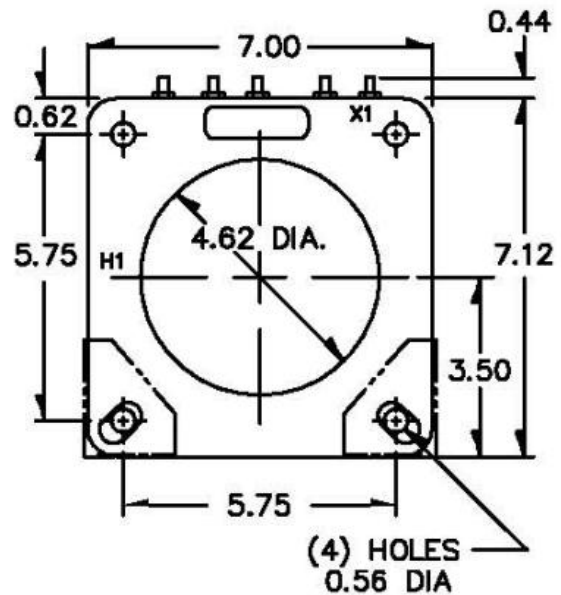
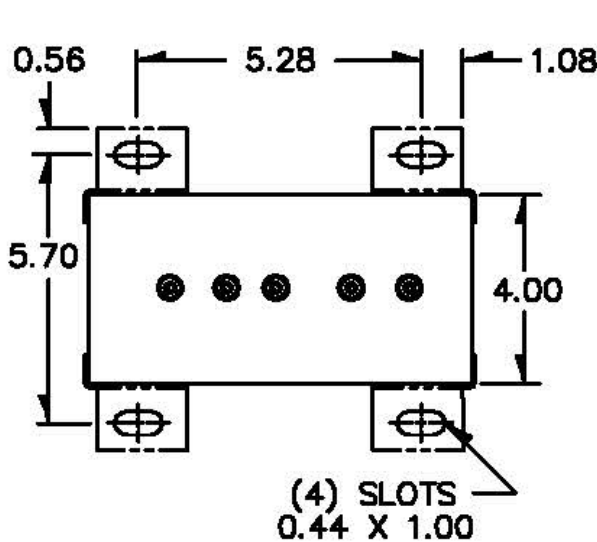
Model	117MR
Window Size	4.62
Width	7.00
Height	7.12
Depth	4.00

CERTIFICATIONS:



MODEL 117MR
Window Diameter 4.62"
Approximate weight: 13 lbs.

Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
117-601MR	C20	2.0	1.5
117-122MR	C100	1.33	1.0
117-202MR	C50	1.0	0.6



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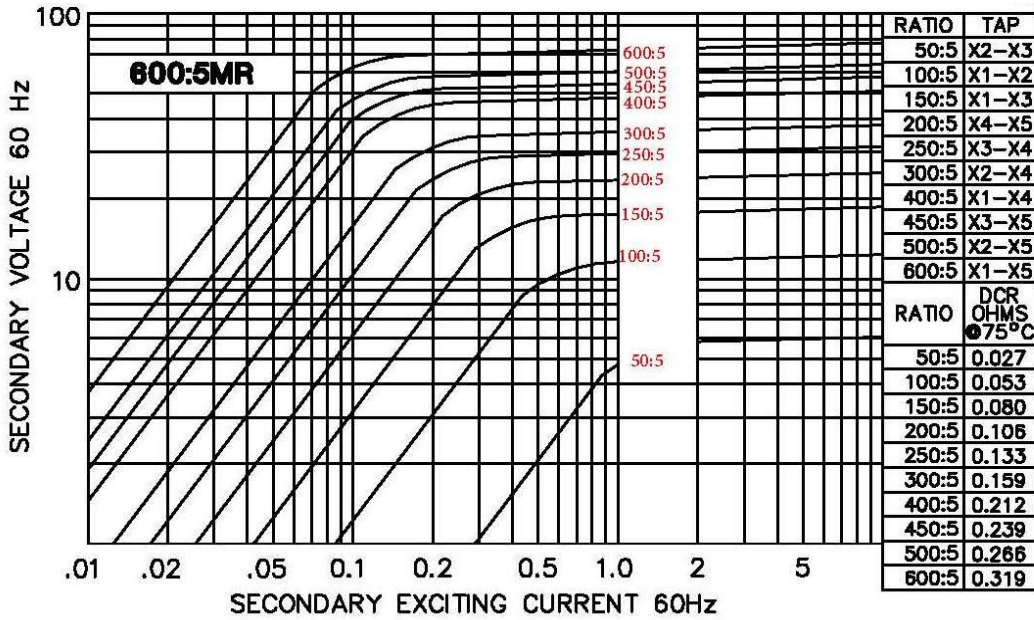
TTL Transformer Technologies Ltd.



Current Transformer

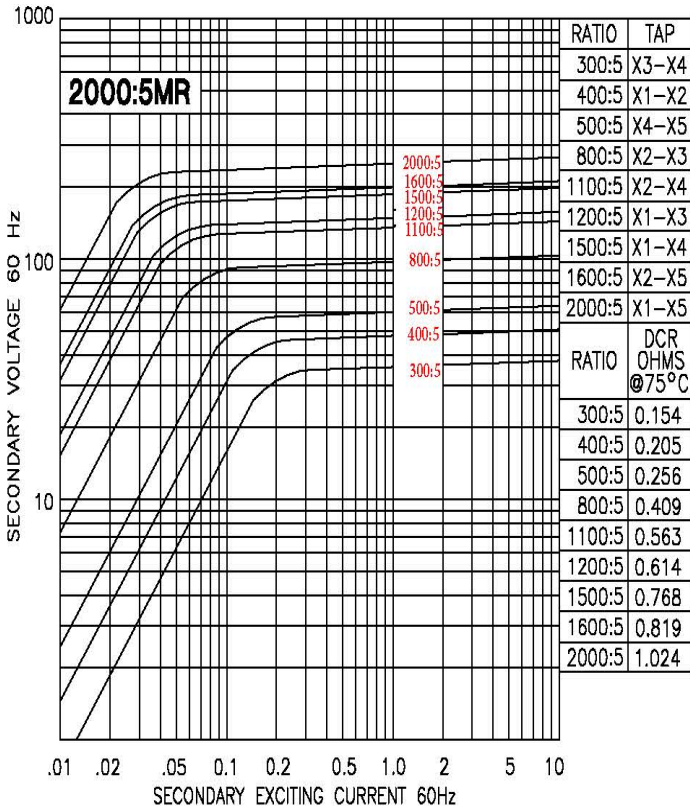
Model 117MR

EXCITATION CURVE



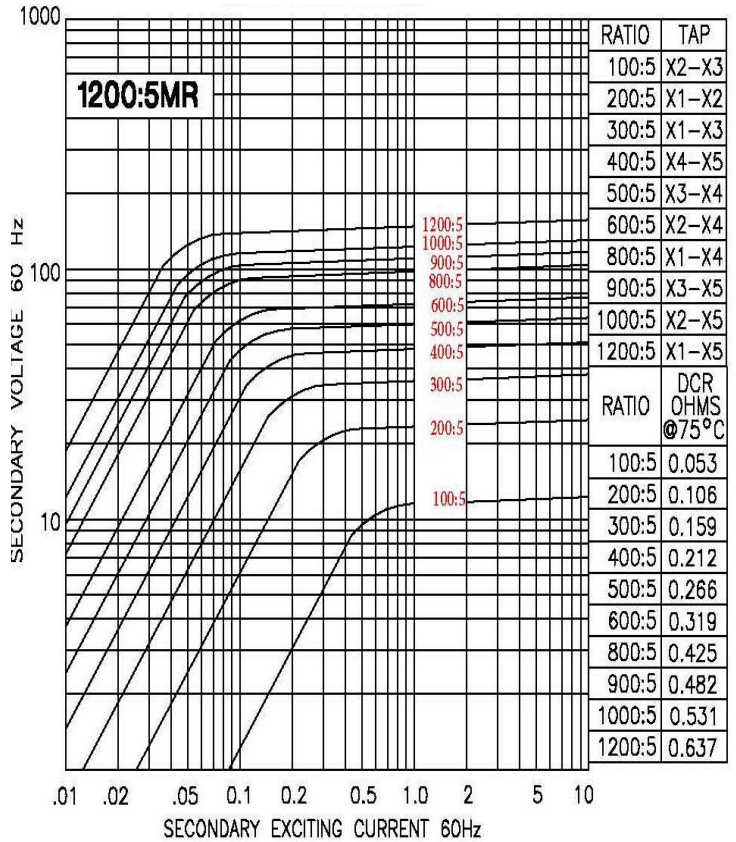
Model 117-601MR - rating C20

TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



Model 117-202MR - rating C50

TRF= 1.00 @ 30°C, 0.6 @ 55°C amb.



Model 117-122MR - rating C100

TRF= 1.33 @ 30°C, 1.0 @ 55°C amb.



Current Transformer

Model 120

APPLICATION:

Relaying and Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

5.75"

APPROXIMATE WEIGHT:

11 lbs.

CONNECTIONS:

- Multi-ratios available upon request
- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- Mounting kits 59-0215 (CR) and 59-0216 (CL)



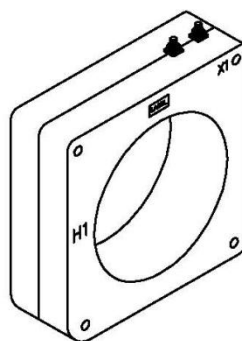
Model	120
Window Size	5.75
Width	8.50
Height	8.50
Depth	2.17

CERTIFICATIONS:



MODEL 120
Window Diameter 5.75"
Approximate weight: 11 lbs.

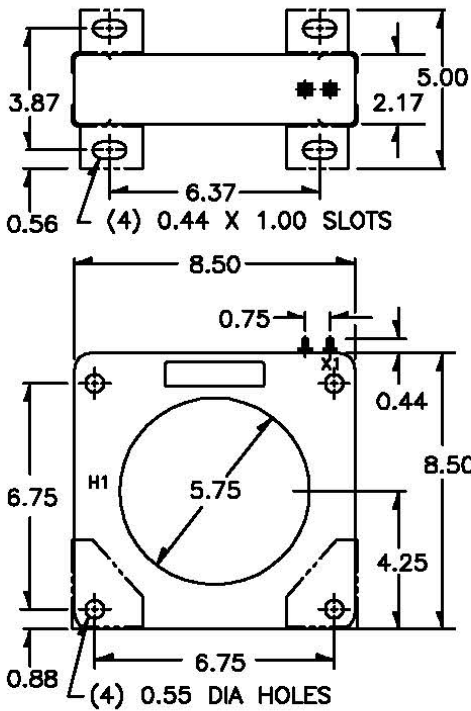
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
120 - 201	200:5	-	1.2	1.2	2.4	4.8	4.8	0.053	2	2
120 - 301	300:5	C10	0.3	0.6	1.2	2.4	2.4	0.063	2	2
120 - 401	400:5	C10	0.3	0.3	0.6	1.2	2.4	0.080	2	2
120 - 501	500:5	C20	0.3	0.3	0.6	0.6	1.2	0.137	2	2
120 - 601	600:5	C20	0.3	0.3	0.3	0.6	0.6	0.165	2	2
120 - 801	800:5	C20	0.3	0.3	0.3	0.3	0.6	0.220	2	1.5
120 - 102	1000:5	C20	0.3	0.3	0.3	0.3	0.6	0.309	1.5	1.5
120 - 122	1200:5	C50	0.3	0.3	0.3	0.3	0.3	0.371	1.5	1.33
120 - 152	1500:5	C50	0.3	0.3	0.3	0.3	0.3	0.464	1.5	1
120 - 162	1600:5	C50	0.3	0.3	0.3	0.3	0.3	0.494	1.33	1
120 - 202	2000:5	C50	0.3	0.3	0.3	0.3	0.3	0.592	1.33	1
120 - 252	2500:5	C50	0.3	0.3	0.3	0.3	0.3	0.740	1	0.8
120 - 302	3000:5	C50	0.3	0.3	0.3	0.3	0.3	0.888	1	0.8
120 - 352	3500:5	C20	0.3	0.3	0.3	0.3	0.3	0.964	1	0.8
120 - 402	4000:5	C50	0.3	0.3	0.3	0.3	0.3	1.102	1	0.8



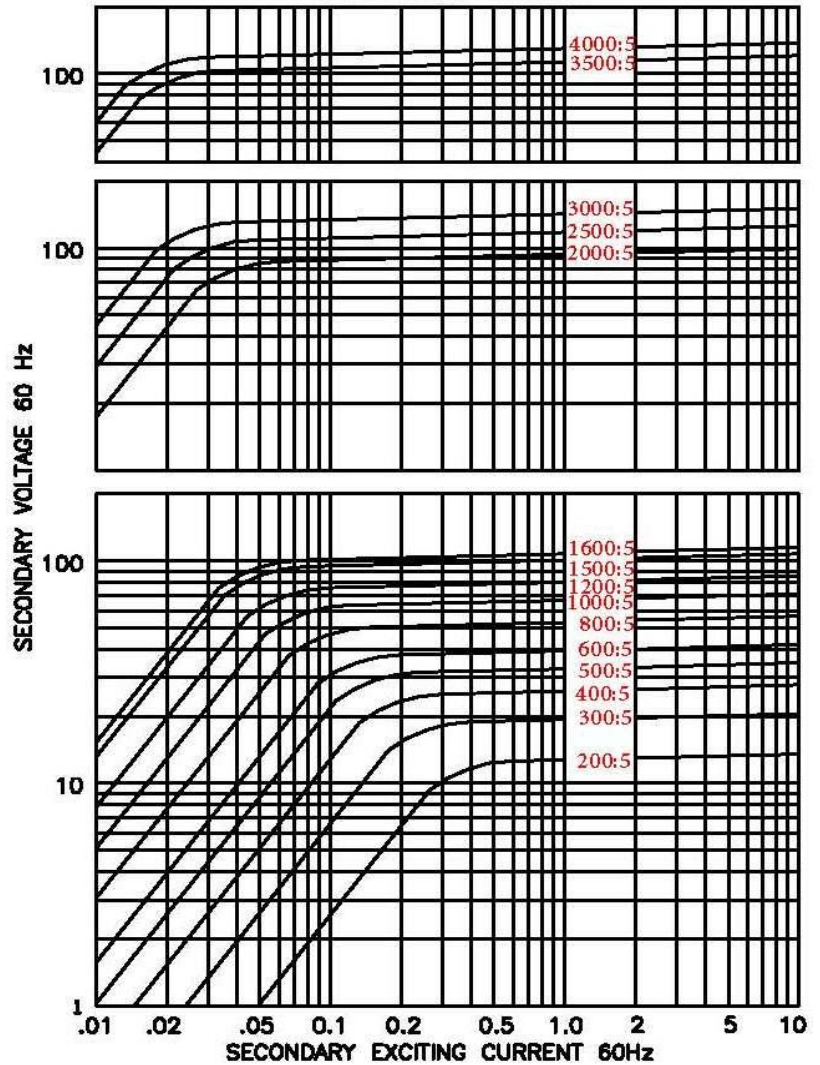
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Model 120



EXCITATION CURVE





Current Transformer

Model 135

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

5.75"

APPROXIMATE WEIGHT:

18 lbs.

CONNECTIONS:

- Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Brackets 59-0215 (CR) and 59-0216 (CL)



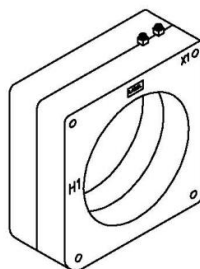
Model	135
Window Size	5.75
Width	9.21
Height	9.21
Depth	3.00

CERTIFICATIONS:



MODEL 135
Window Diameter 5.75"
Approximate weight: 18 lbs.

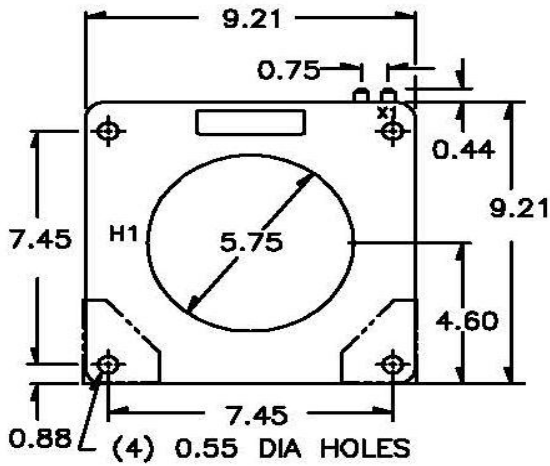
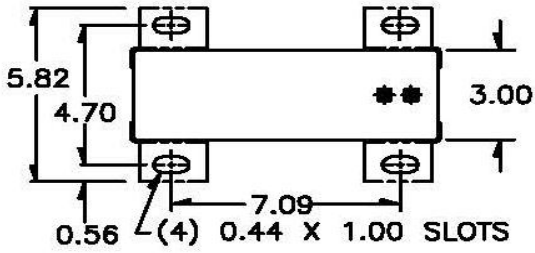
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
135 - 500	50:5	-	4.8	-	-	-	-	0.015	2	2
135 - 750	75:5	-	2.4	4.8	-	-	-	0.027	2	2
135 - 101	100:5	-	1.2	2.4	4.8	-	-	0.036	2	2
135 - 151	150:5	C10	0.6	1.2	2.4	4.8	-	0.059	2	2
135 - 201	200:5	C10	0.6	0.6	1.2	2.4	4.8	0.078	2	2
135 - 251	250:5	C20	0.6	0.6	1.2	2.4	2.4	0.113	2	2
135 - 301	300:5	C20	0.3	0.3	0.6	1.2	2.4	0.117	2	2
135 - 401	400:5	C20	0.3	0.3	0.3	0.6	1.2	0.156	2	2
135 - 501	500:5	C50	0.3	0.3	0.3	0.3	0.6	0.181	2	2
135 - 601	600:5	C50	0.3	0.3	0.3	0.3	0.6	0.217	2	2
135 - 751	750:5	C50	0.3	0.3	0.3	0.3	0.6	0.339	2	1.5
135 - 801	800:5	C50	0.3	0.3	0.3	0.3	0.6	0.362	2	1.5
135 - 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.452	1.5	1.33
135 - 122	1200:5	C100	0.3	0.3	0.3	0.3	0.3	0.543	1.5	1.33
135 - 152	1500:5	C100	0.3	0.3	0.3	0.3	0.3	0.678	1.5	1
135 - 162	1600:5	C100	0.3	0.3	0.3	0.3	0.3	0.694	1.5	1
135 - 202	2000:5	C100	0.3	0.3	0.3	0.3	0.3	0.867	1.33	1
135 - 252	2500:5	C200	0.3	0.3	0.3	0.3	0.3	1.084	1	0.8
135 - 302	3000:5	C200	0.3	0.3	0.3	0.3	0.3	1.301	1	0.8
135 - 322	3200:5	C200	0.3	0.3	0.3	0.3	0.3	1.279	1	0.8
135 - 352	3500:5	C200	0.3	0.3	0.3	0.3	0.3	1.399	1	0.8
135 - 402	4000:5	C200	0.3	0.3	0.3	0.3	0.3	1.598	1	0.6
135 - 502	5000:5	C200	0.3	0.3	0.3	0.3	0.3	2.459	1	0.6



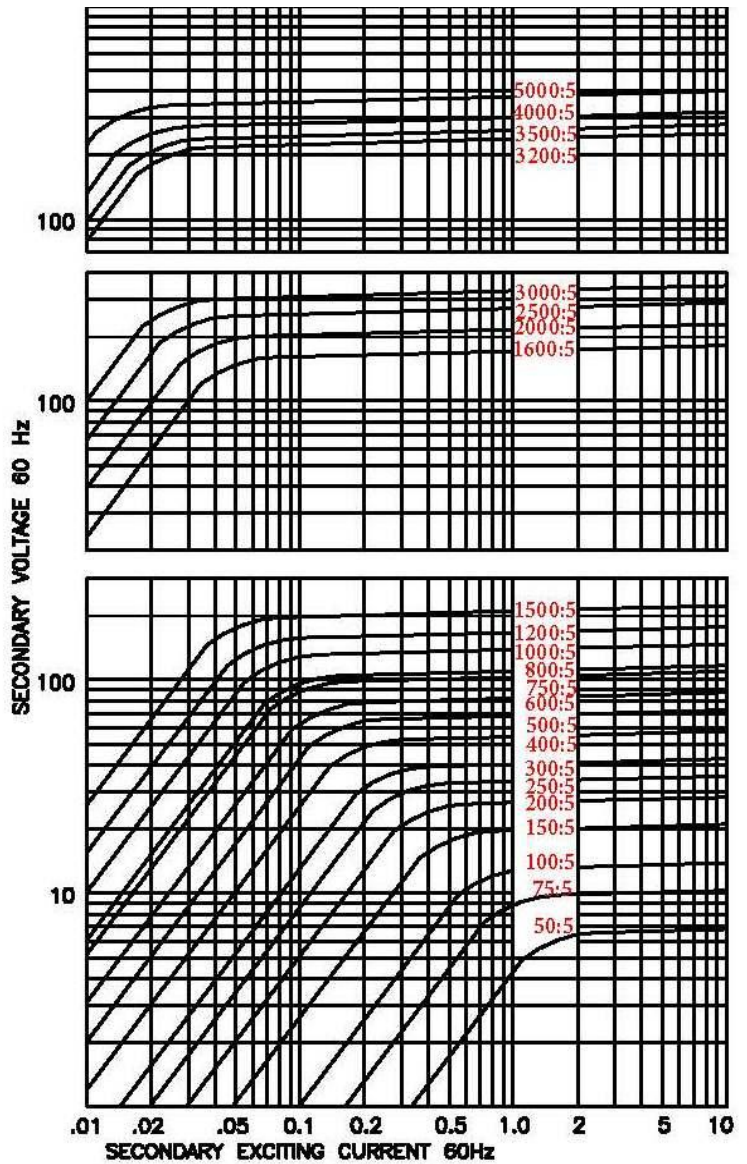
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Model 135



EXCITATION CURVE



Model 135



Current Transformer

Model 135MR

APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

5.75"

APPROXIMATE WEIGHT:

18 lbs.

CONNECTIONS:

- Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Brackets 59-0215 (CR) and 59-0216 (CL)



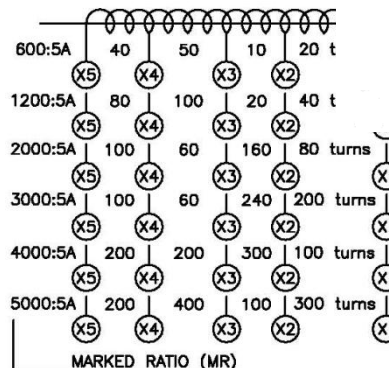
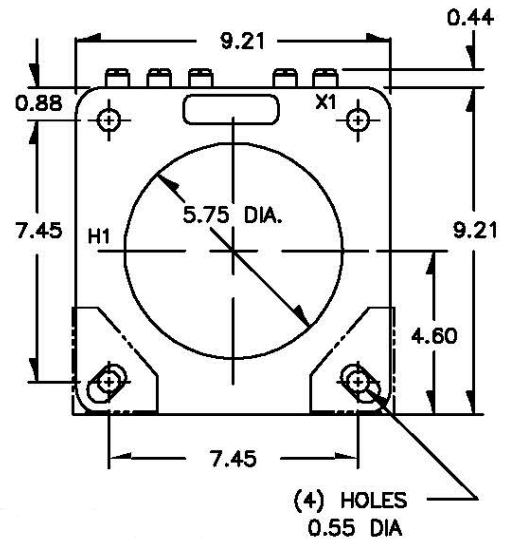
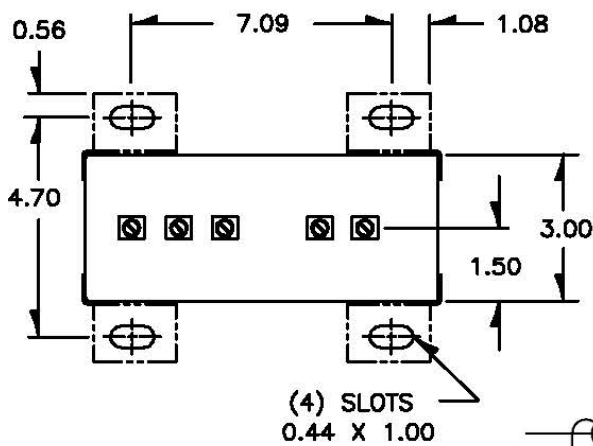
CERTIFICATIONS:



Model	135MR
Window Size	5.75
Width	9.21
Height	9.21
Depth	3.00

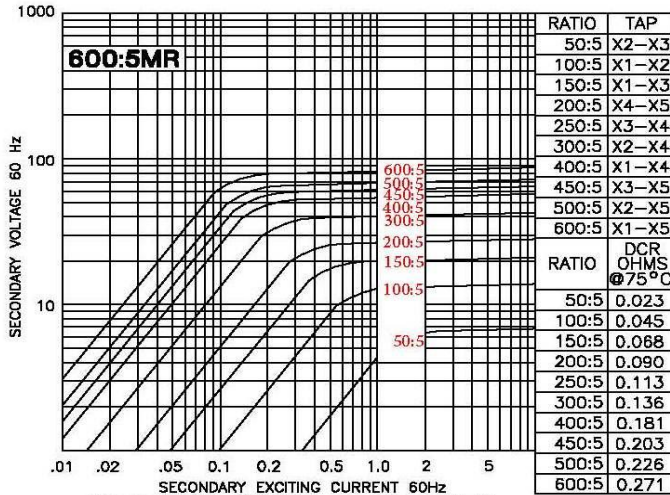
MODEL 135MR
 Window Diameter 5.75"
 Approximate weight: 18 lbs.

Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
135-601MR	C50	2.0	2.0
135-122MR	C100	1.5	1.33
135-202MR	C100	1.0	0.8
135-302MR	C200	1.0	0.8
135-402MR	C200	1.0	0.6
135-502MR	C200	1.0	0.6

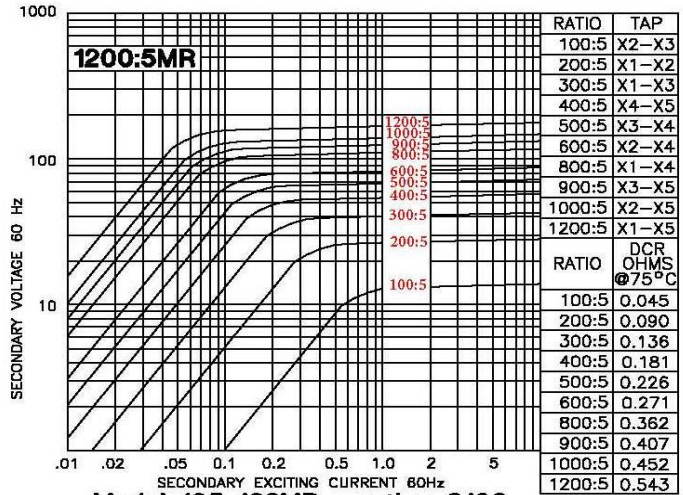


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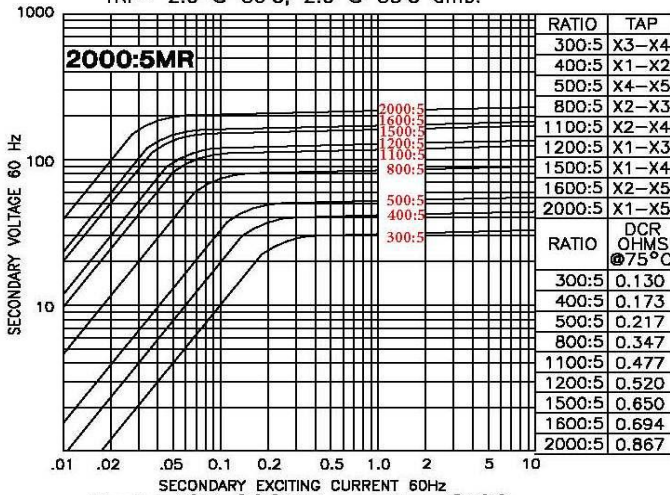
EXCITATION CURVE



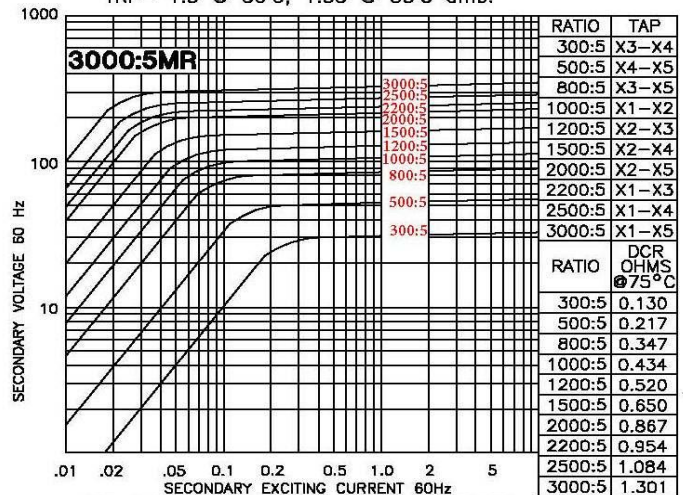
Model 135-601MR - rating C50
TRF= 2.0 @ 30°C, 2.0 @ 55°C amb.



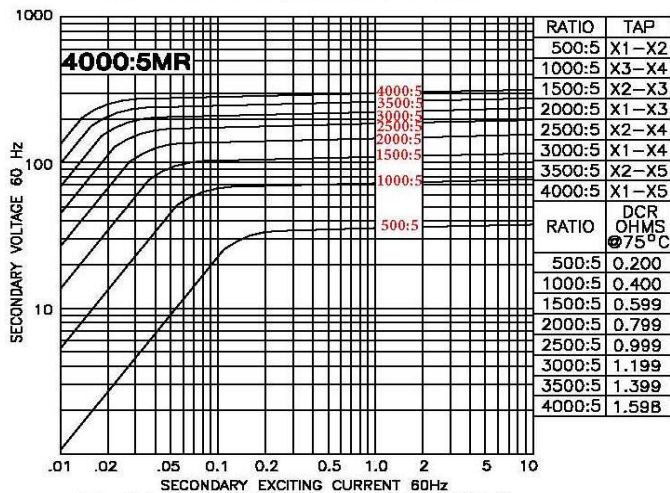
Model 135-122MR - rating C100
TRF= 1.5 @ 30°C, 1.33 @ 55°C amb.



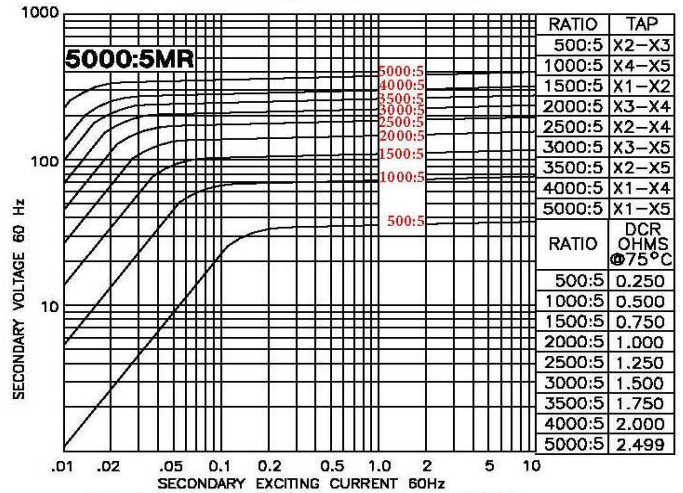
Model 135-202MR - rating C100
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 135-302MR - rating C200
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 135-402MR - rating C200
TRF= 1.0 @ 30°C, 0.6 @ 55°C amb.



Model 135-502MR - rating C200
TRF= 1.0 @ 30°C, 0.6 @ 55°C amb.



Current Transformer

Model 144

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

6.00"

APPROXIMATE WEIGHT:

40 lbs.

CONNECTIONS:

- Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Mounting Kit – 59-0215 (CR) and 59-0216 (CL)



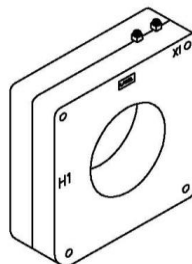
Model	144
Window Size	6.00
Width	11.10
Height	11.47
Depth	3.00

CERTIFICATIONS:



MODEL 144
Window Diameter 6.00"
 Approximate weight: 40 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
144 – 500	50:5	-	2.4	4.8	-	-	-	0.020	2	2
144 – 750	75:5	C10	1.2	2.4	-	-	-	0.032	2	2
144 – 101	100:5	C10	1.2	1.2	2.4	4.8	-	0.040	2	2
144 – 151	150:5	C20	0.6	0.6	1.2	2.4	4.8	0.057	2	2
144 – 201	200:5	C20	0.6	0.6	1.2	2.4	2.4	0.067	2	2
144 – 251	250:5	C50	0.3	0.3	0.6	1.2	2.4	0.125	2	2
144 – 301	300:5	C50	0.3	0.3	0.6	0.6	1.2	0.150	2	2
144 – 401	400:5	C50	0.3	0.3	0.3	0.6	0.6	0.195	2	2
144 – 501	500:5	C100	0.3	0.3	0.3	0.6	0.6	0.282	2	2
144 – 601	600:5	C100	0.3	0.3	0.3	0.3	0.6	0.338	2	1.5
144 – 751	750:5	C100	0.3	0.3	0.3	0.3	0.3	0.213	2	2
144 – 801	800:5	C100	0.3	0.3	0.3	0.3	0.3	0.451	2	1.5
144 – 102	1000:5	C200	0.3	0.3	0.3	0.3	0.3	0.563	2	1.5
144 – 122	1200:5	C200	0.3	0.3	0.3	0.3	0.3	0.676	1.5	1.33
144 – 152	1500:5	C200	0.3	0.3	0.3	0.3	0.3	0.845	1.5	1
144 – 162	1600:5	C200	0.3	0.3	0.3	0.3	0.3	0.902	1.5	1
144 – 202	2000:5	C200	0.3	0.3	0.3	0.3	0.3	1.002	1.5	1
144 – 252	2500:5	C400	0.3	0.3	0.3	0.3	0.3	1.252	1.33	1
144 – 302	3000:5	C400	0.3	0.3	0.3	0.3	0.3	1.503	1	0.8
144 – 322	3200:5	C400	0.3	0.3	0.3	0.3	0.3	1.603	1	0.8
144 – 352	3500:5	C200	0.3	0.3	0.3	0.3	0.3	1.592	1	0.8
144 – 402	4000:5	C400	0.3	0.3	0.3	0.3	0.3	1.820	1	0.8
144 – 502	5000:5	C400	0.3	0.3	0.3	0.3	0.3	2.275	1	0.6
144 – 602	6000:5	C400	0.3	0.3	0.3	0.3	0.3	2.730	0.8	0.6



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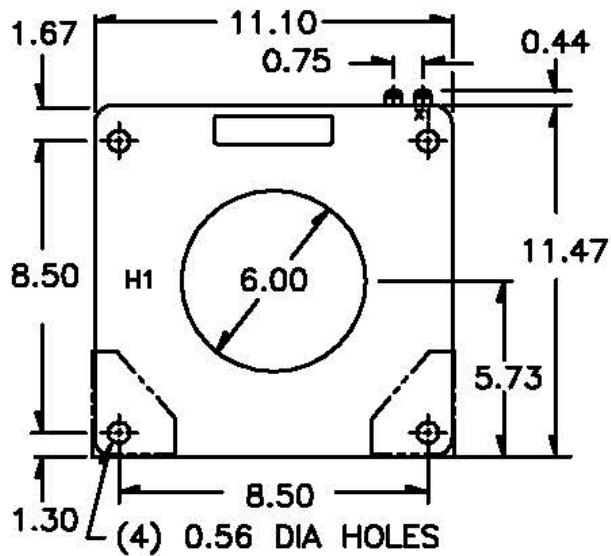
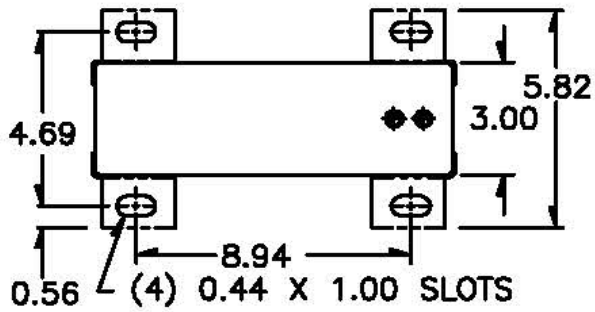


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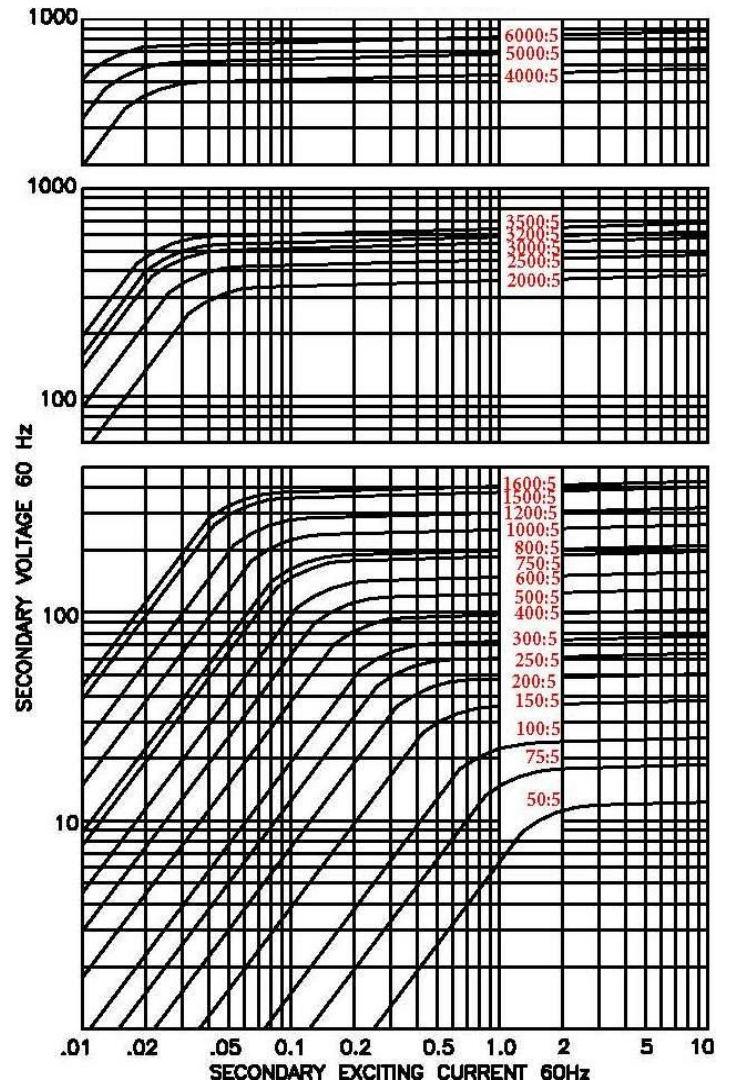


Current Transformer

Model 144



EXCITATION CURVE



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 144MR

CERTIFICATIONS:



APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

6.00"

APPROXIMATE WEIGHT:

40 lbs.

CONNECTIONS:

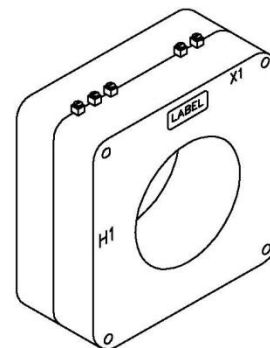
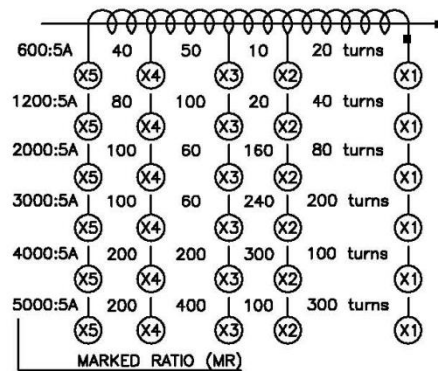
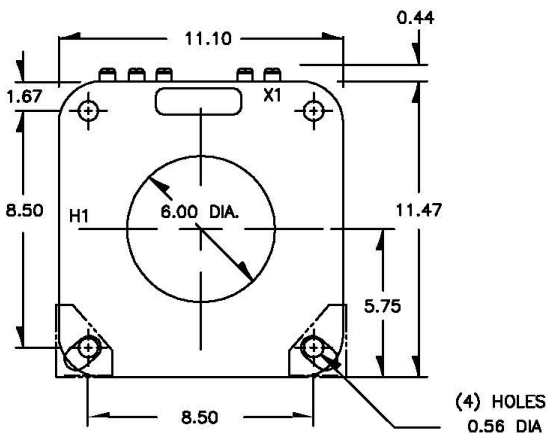
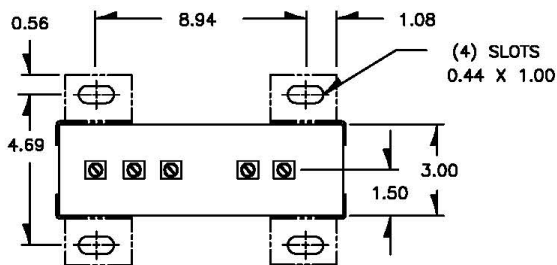
-Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut

-Mounting kit – 59-0215 (CR) and 59-0216 (CL)

Model	144MR
Window Size	6.00
Width	11.10
Height	11.47
Depth	3.00

MODEL 144MR
Window Diameter 6.00"
Approximate weight: 40 lbs.

Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
144-601MR	C100	2.0	1.5
144-122MR	C200	2.0	1.5
144-202MR	C200	1.5	1.0
144-302MR	C400	1.0	0.8
144-402MR	C400	1.0	0.8
144-502MR	C400	1.0	0.6



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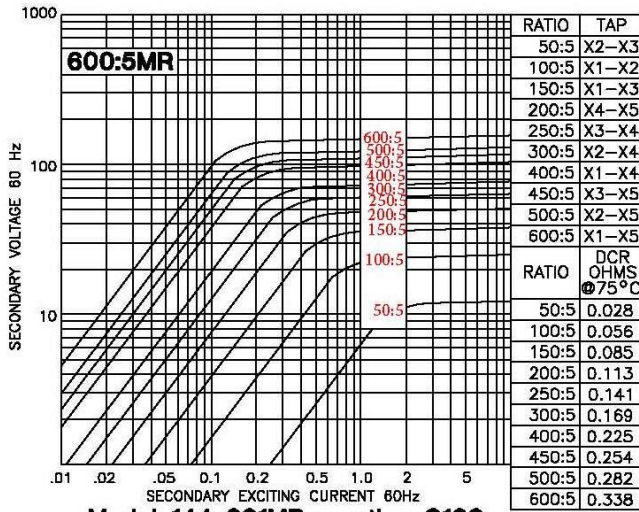
TTL Transformer Technologies Ltd.



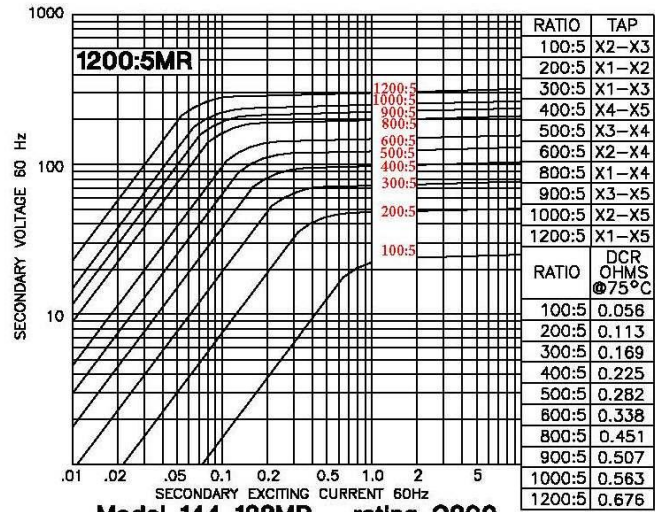
Current Transformer

Model 144MR

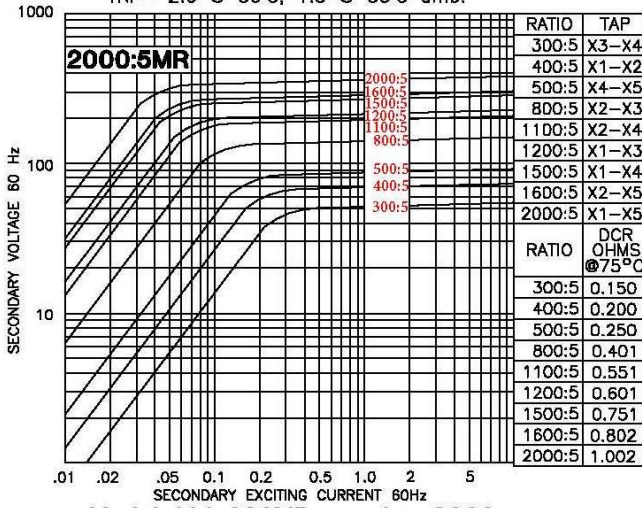
EXCITATION CURVE



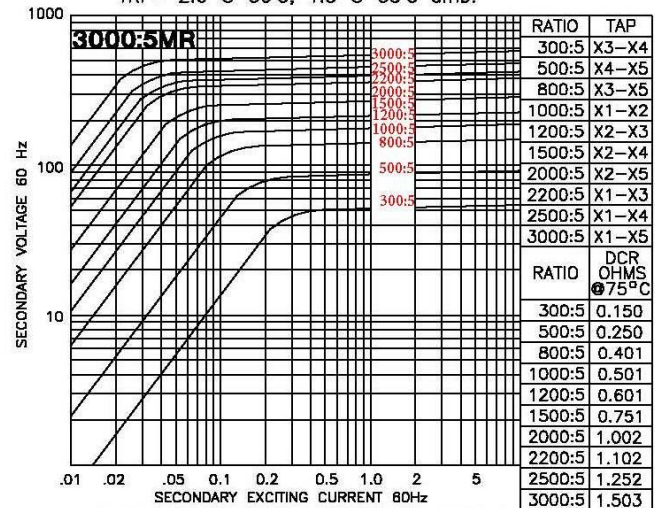
Model 144-601MR - rating C100
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



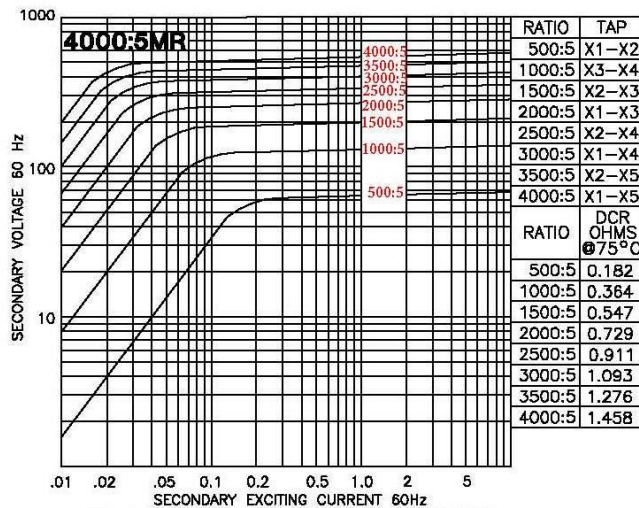
Model 144-122MR - rating C200
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



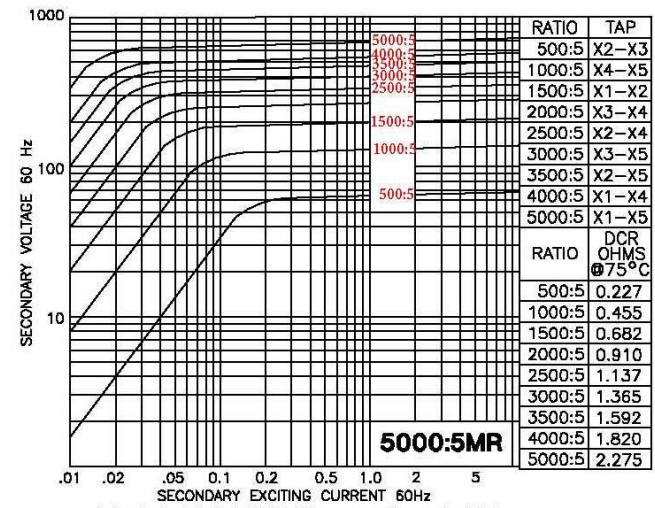
Model 144-202MR - rating C200
TRF= 1.5 @ 30°C, 1.0 @ 55°C amb.



Model 144-302MR - rating C400
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 144-402MR - rating C400
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



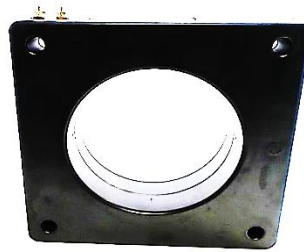
Model 144-502MR - rating C400
TRF= 1.0 @ 30°C, 0.6 @ 55°C amb.



Current Transformer

Model 145

CERTIFICATIONS:



APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

6.00"

APPROXIMATE WEIGHT:

83 lbs.

CONNECTIONS:

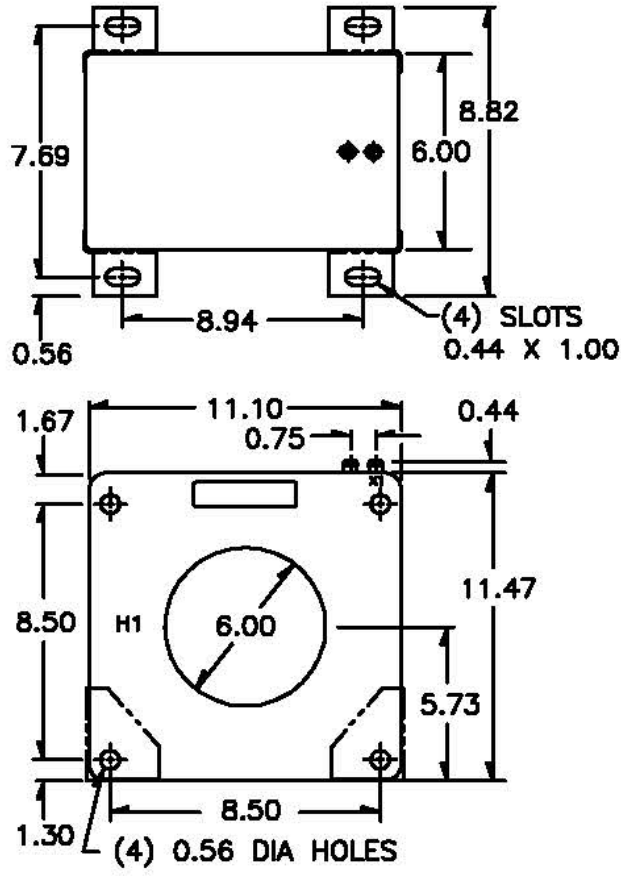
- Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Mounting Kit – 59-0215 (CR) and 59-0216 (CL)

Model	145
Window Size	6.00
Width	11.10
Height	11.47
Depth	6.00

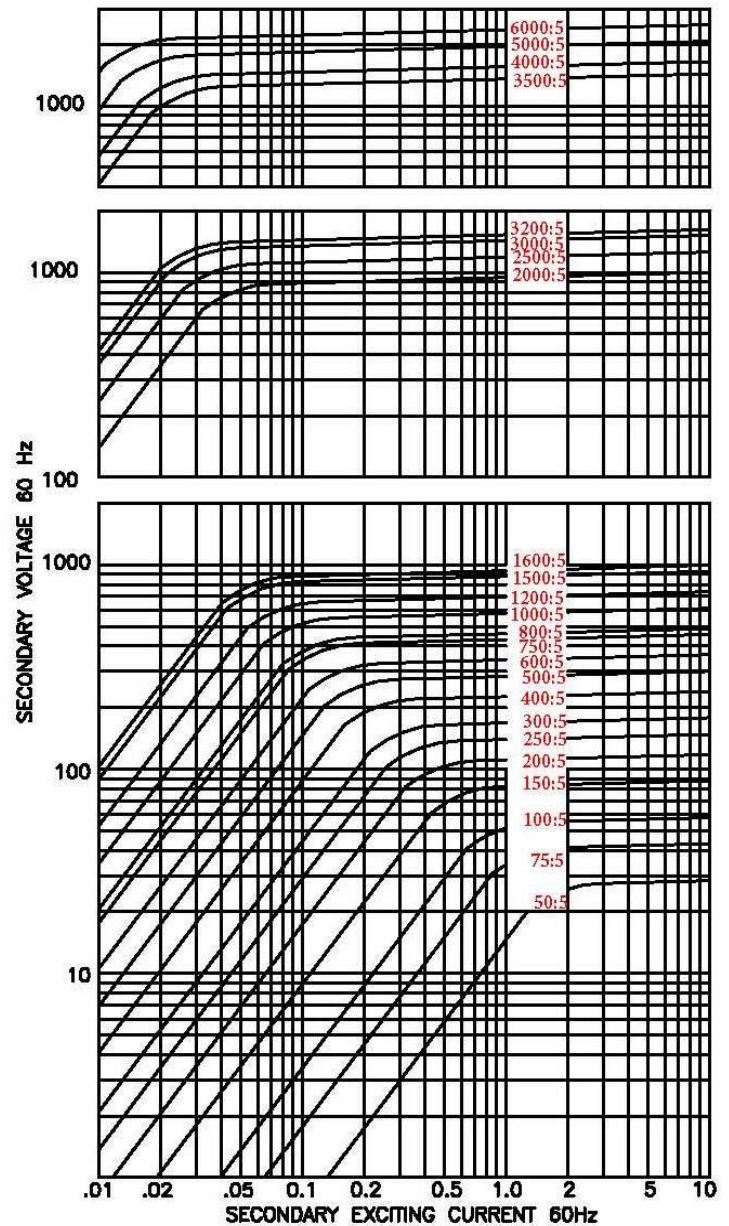
MODEL 145
Window Diameter 6.00"
Approximate weight: 83 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
145 – 500	50:5	C20	1.2	4.8	-	-	-	0.030	2	2
145 – 750	75:5	C20	1.2	2.4	4.8	4.8	-	0.045	2	2
145 – 101	100:5	C20	0.6	1.2	2.4	4.8	4.8	0.061	2	2
145 – 151	150:5	C50	0.6	0.6	1.2	2.4	2.4	0.091	2	2
145 – 201	200:5	C100	0.3	0.6	0.6	1.2	2.4	0.121	2	2
145 – 251	250:5	C100	0.3	0.3	0.6	0.6	1.2	0.152	2	2
145 – 301	300:5	C100	0.3	0.3	0.3	0.6	1.2	0.288	2	2
145 – 401	400:5	C200	0.3	0.3	0.3	0.3	0.6	0.384	2	2
145 – 501	500:5	C200	0.3	0.3	0.3	0.3	0.3	0.480	2	1.5
145 – 601	600:5	C200	0.3	0.3	0.3	0.3	0.3	0.576	2	1.5
145 – 751	750:5	C400	0.3	0.3	0.3	0.3	0.3	0.720	2	1.5
145 – 801	800:5	C400	0.3	0.3	0.3	0.3	0.3	0.768	2	1.5
145 – 102	1000:5	C400	0.3	0.3	0.3	0.3	0.3	0.960	1.5	1.33
145 – 122	1200:5	C400	0.3	0.3	0.3	0.3	0.3	1.153	1.5	1
145 – 152	1500:5	C800	0.3	0.3	0.3	0.3	0.3	1.441	1.5	1
145 – 162	1600:5	C800	0.3	0.3	0.3	0.3	0.3	1.537	1.33	1
145 – 202	2000:5	C800	0.3	0.3	0.3	0.3	0.3	1.829	1	1
145 – 252	2500:5	C800	0.3	0.3	0.3	0.3	0.3	2.286	1	0.8
145 – 302	3000:5	C800	0.3	0.3	0.3	0.3	0.3	2.743	1	0.8
145 – 322	3200:5	C800	0.3	0.3	0.3	0.3	0.3	2.926	1	0.8
145 – 352	3500:5	C800	0.3	0.3	0.3	0.3	0.3	3.040	1	0.8
145 – 402	4000:5	C800	0.3	0.3	0.3	0.3	0.3	3.474	1	0.6
145 – 502	5000:5	C800	0.3	0.3	0.3	0.3	0.3	4.342	0.8	0.6
145 – 602	6000:5	C800	0.3	0.3	0.3	0.3	0.3	5.211	0.8	0.6

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



EXCITATION CURVE





Current Transformer

Model 145MR

APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

6.00"

APPROXIMATE WEIGHT:

83 lbs.

CONNECTIONS:

-Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut.



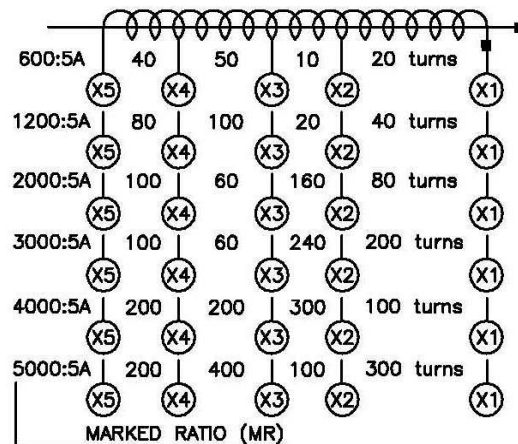
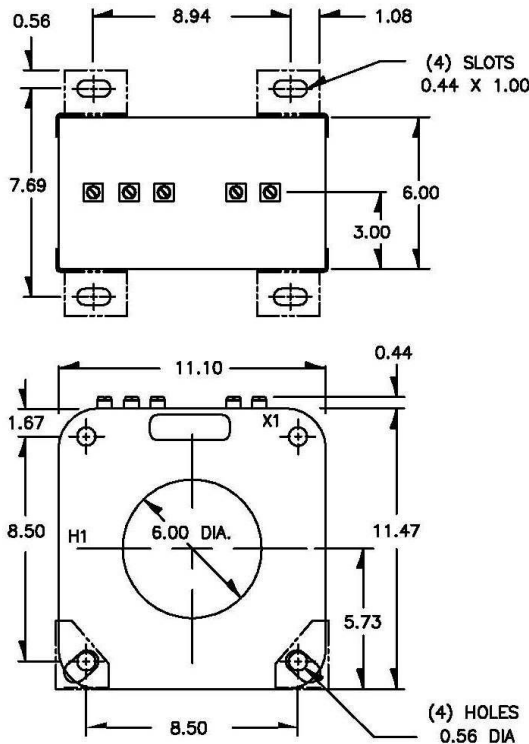
Model	145MR
Window Size	6.00
Width	11.10
Height	11.47
Depth	6.00

CERTIFICATIONS:



MODEL 145MR
 Window Diameter 6.00"
 Approximate weight: 83 lbs.

Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
145-601MR	C200	2.0	1.5
145-122MR	C400	1.5	1.0
145-202MR	C800	1.33	1.0
145-302MR	C800	1.0	0.8
145-402MR	C800	1.0	0.6
145-502MR	C800	0.8	0.6



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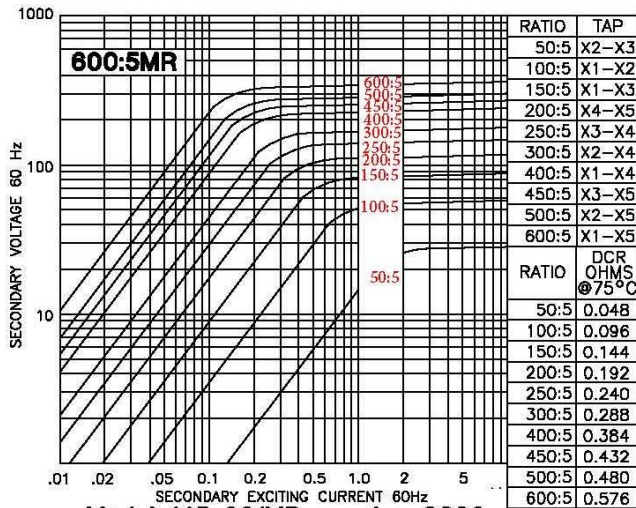
TTL Transformer Technologies Ltd.



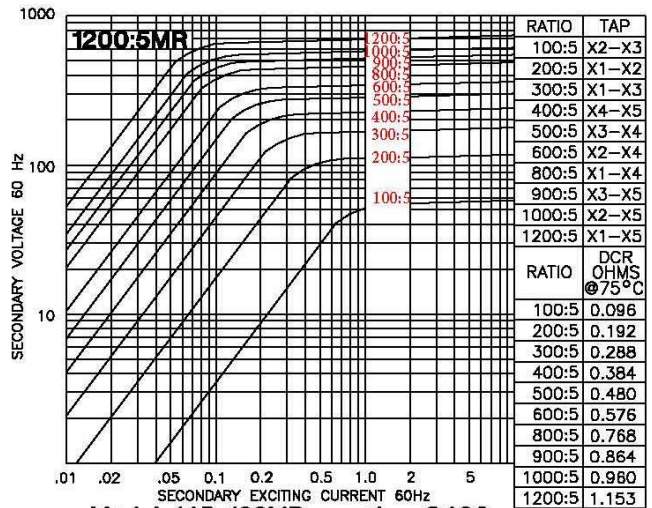
Current Transformer

Model 145MR

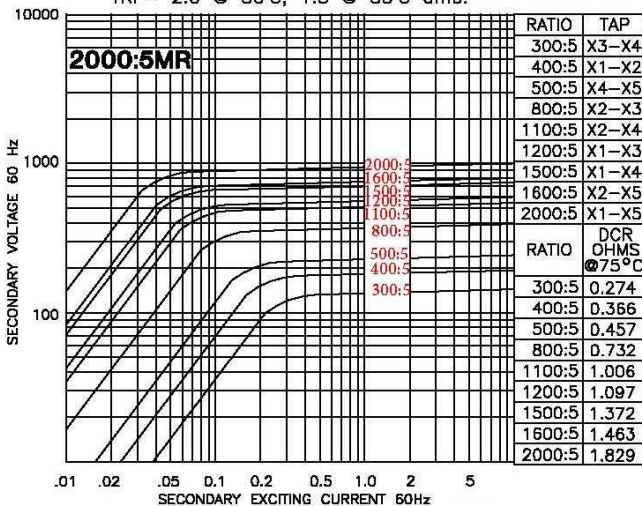
EXCITATION CURVE



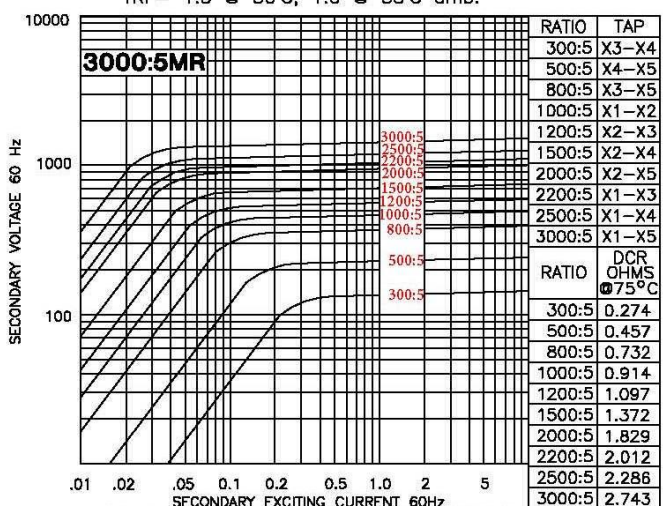
Model 145-601MR - rating C200
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



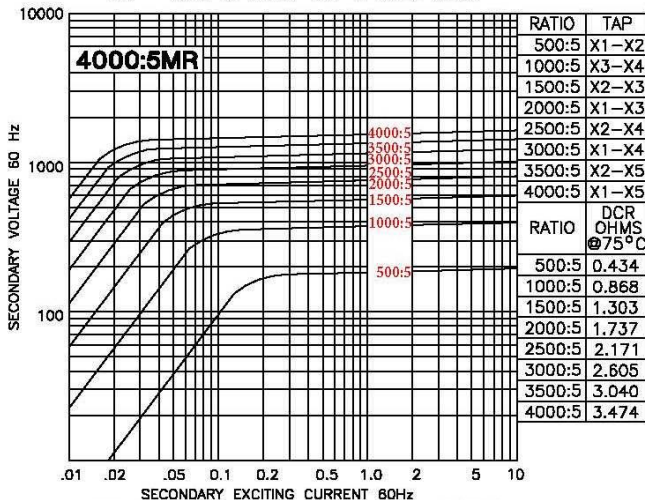
Model 145-122MR - rating C400
TRF= 1.5 @ 30°C, 1.0 @ 55°C amb.



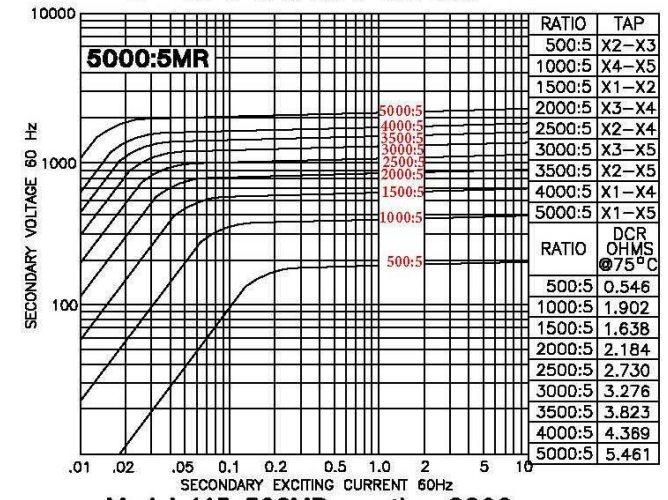
Model 145-202MR - rating C800
TRF= 1.33 @ 30°C, 1.0 @ 55°C amb.



Model 145-302MR - rating C800
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 145-402MR - rating C800
TRF= 1.0 @ 30°C, 0.6 @ 55°C amb.



Model 145-502MR - rating C800
TRF= 0.8 @ 30°C, 0.6 @ 55°C amb.



Current Transformer

Model 142

CERTIFICATIONS:



APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

7.25"

APPROXIMATE WEIGHT:

31 lbs.

CONNECTIONS:

- Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Mounting Kit – 59-0215 (CR) and 59-0216 (CL)

Model	142
Window Size	7.25
Width	11.10
Height	11.47
Depth	3.00

MODEL 142
Window Diameter 7.25"
Approximate weight: 31 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
142 – 500	50:5	-	-	-	-	-	-	0.031	2	2
142 – 750	75:5	-	2.4	4.8	-	-	-	0.035	2	2
142 – 101	100:5	C10	1.2	2.4	4.8	-	-	0.051	2	2
142 – 151	150:5	C10	1.2	1.2	2.4	4.8	-	0.070	2	2
142 – 201	200:5	C20	0.6	0.6	1.2	2.4	4.8	0.102	2	2
142 – 251	250:5	C20	0.6	0.6	1.2	1.2	2.4	0.127	2	2
142 – 301	300:5	C30	0.3	0.3	0.6	1.2	2.4	0.153	2	2
142 – 401	400:5	C50	0.3	0.3	0.3	0.6	1.2	0.196	2	2
142 – 501	500:5	C50	0.3	0.3	0.3	0.6	0.6	0.252	2	2
142 – 601	600:5	C50	0.3	0.3	0.3	0.3	0.6	0.255	2	2
142 – 751	750:5	C100	0.3	0.3	0.3	0.3	0.3	0.304	2	1.5
142 – 801	800:5	C100	0.3	0.3	0.3	0.3	0.3	0.336	2	1.5
142 – 102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.486	2	1.5
142 – 122	1200:5	C100	0.3	0.3	0.3	0.3	0.3	0.735	1.5	1
142 – 152	1500:5	C200	0.3	0.3	0.3	0.3	0.3	0.918	1.5	1
142 – 162	1600:5	C200	0.3	0.3	0.3	0.3	0.3	0.979	1.33	1
142 – 202	2000:5	C200	0.3	0.3	0.3	0.3	0.3	0.544	2	1.5
142 – 252	2500:5	C200	0.3	0.3	0.3	0.3	0.3	1.066	1.5	1
142 – 302	3000:5	C200	0.3	0.3	0.3	0.3	0.3	1.280	1	0.8
142 – 322	3200:5	C200	0.3	0.3	0.3	0.3	0.3	1.365	1	0.8
142 – 352	3500:5	C200	0.3	0.3	0.3	0.3	0.3	1.493	1	0.8
142 – 402	4000:5	C200	0.3	0.3	0.3	0.3	0.3	1.452	1	0.8
142 – 502	5000:5	C200	0.3	0.3	0.3	0.3	0.3	1.915	1	0.8
142 – 602	6000:5	C200	0.3	0.3	0.3	0.3	0.3	2.298	1	0.6

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 142MR

APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

7.25"

APPROXIMATE WEIGHT:

31 lbs.

CONNECTIONS:

- Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Mounting kit – 59-0215 (CR) and 59-0216 (CL)



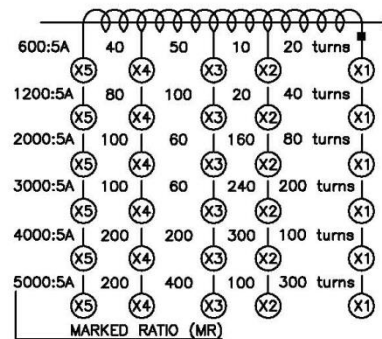
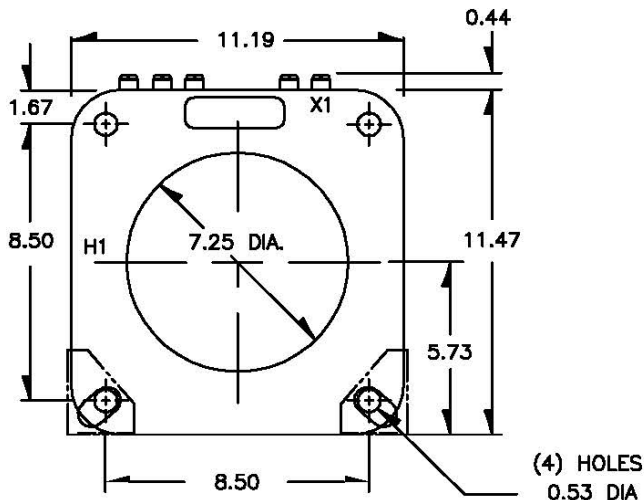
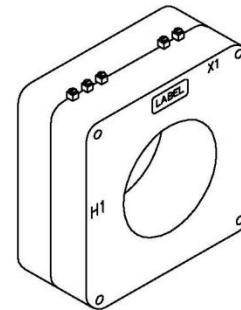
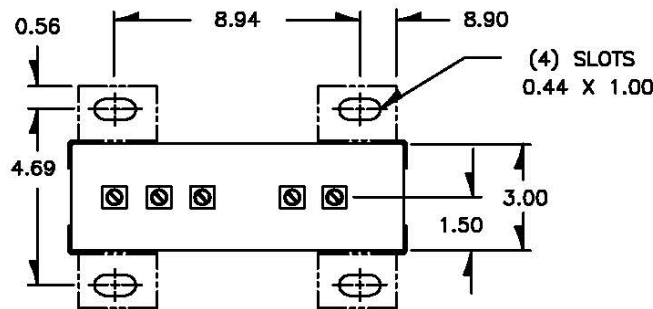
Model	142MR
Window Size	7.25
Width	11.10
Height	11.47
Depth	3.00

CERTIFICATIONS:



MODEL 142MR
 Window Diameter 7.25"
 Approximate weight: 31 lbs.

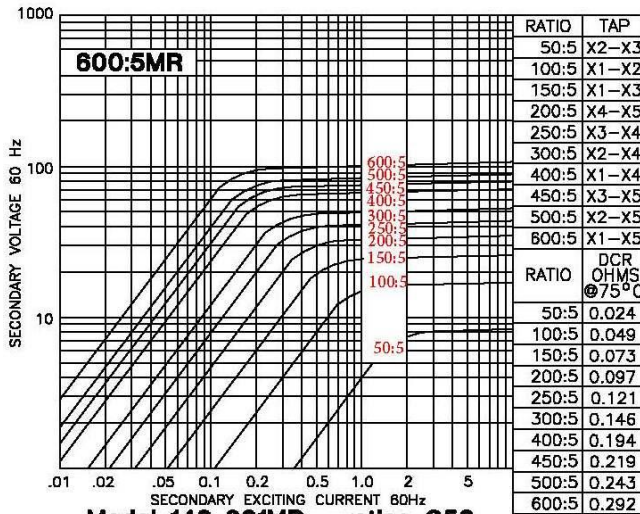
Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
142-601MR	C50	2.0	2.0
142-122MR	C200	1.5	1.0
142-202MR	C200	2.0	1.5
142-302MR	C200	1.0	0.8
142-402MR	C200	1.0	0.8
142-502MR	C200	1.0	0.8



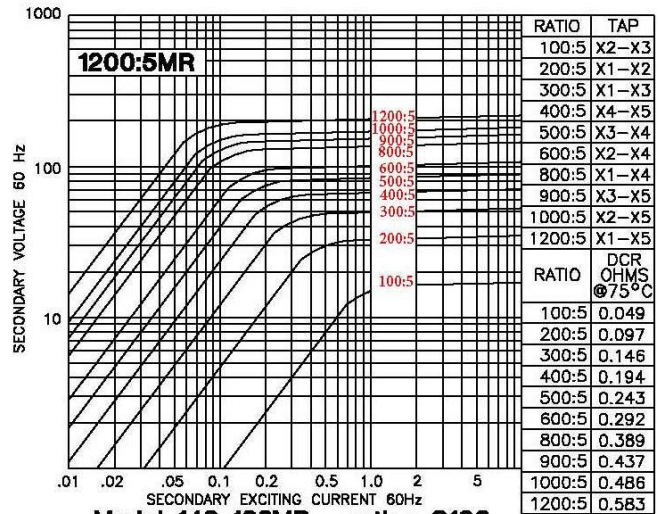
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



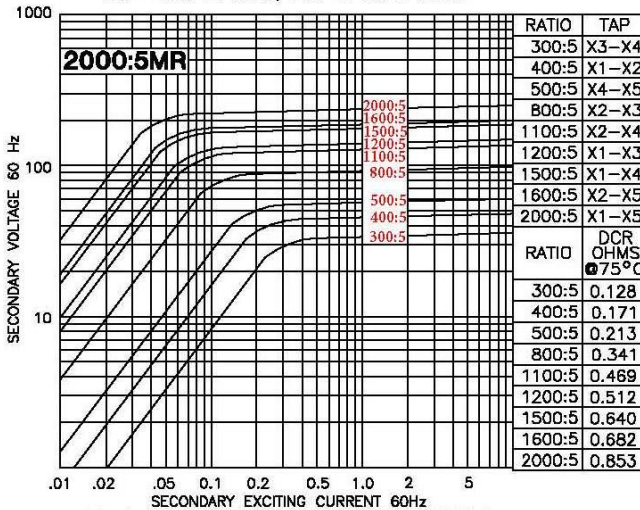
EXCITATION CURVE



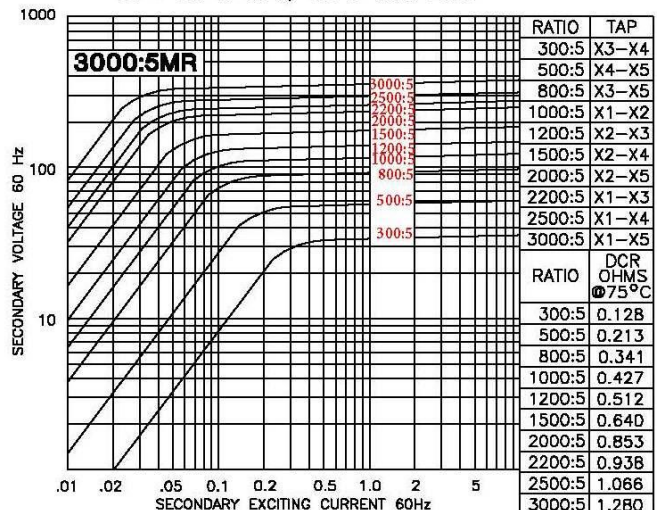
Model 142-601MR - rating C50
TRF= 2.0 @ 30°C, 2.0 @ 55°C amb.



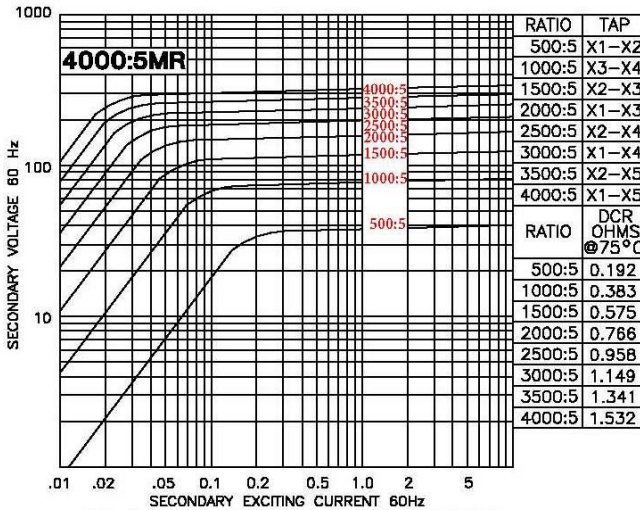
Model 142-122MR - rating C100
TRF= 1.5 @ 30°C, 1.0 @ 55°C amb.



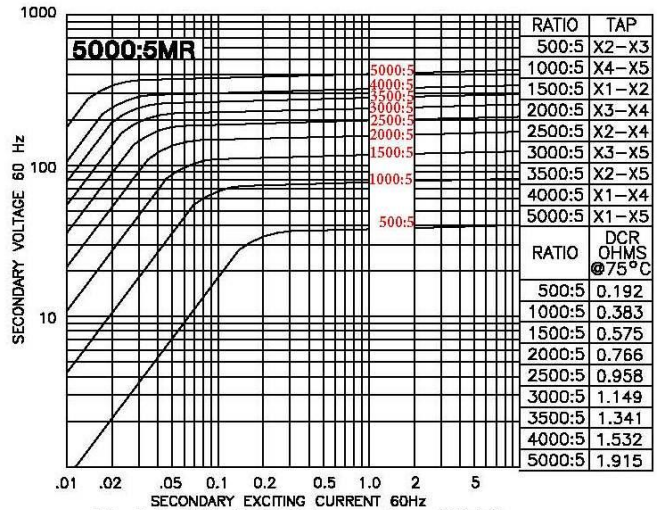
Model 142-202MR - rating C200
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



Model 142-302MR - rating C200
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 142-402MR - rating C200
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.

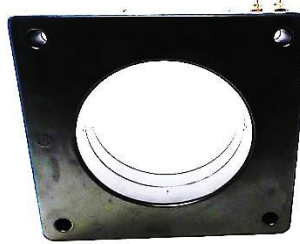


Model 142-502MR - rating C200
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Current Transformer

Model 143



CERTIFICATIONS:



E228202



ISO 9001
Registered
Quality
Management

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

7.31"

APPROXIMATE WEIGHT:

60 lbs.

CONNECTIONS:

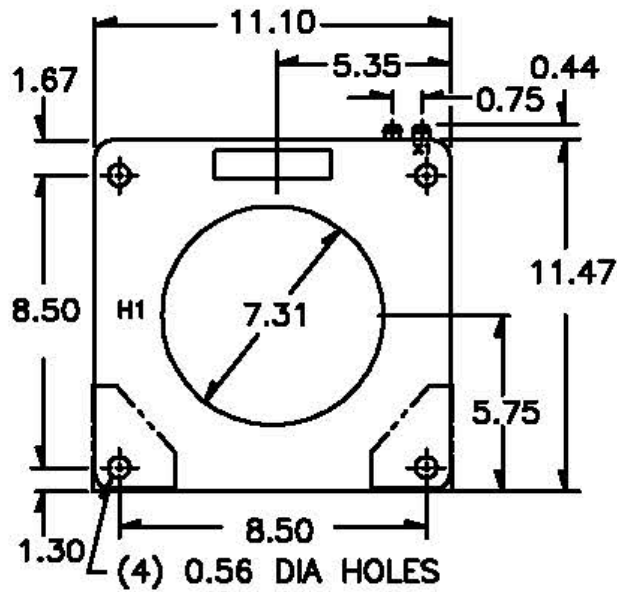
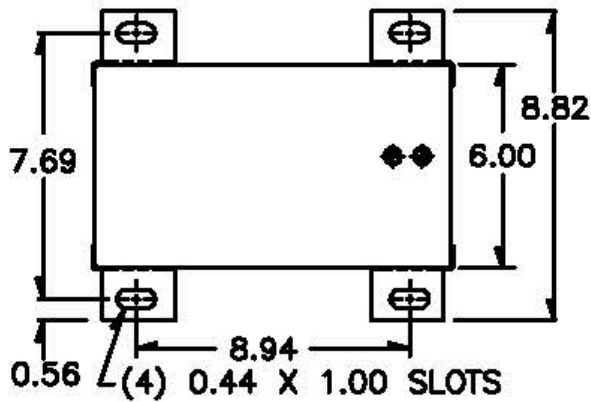
- Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Mounting kit – 59-0215 (CR) and 59-0216 (CL)

Model	143
Window Size	7.31
Width	11.10
Height	11.47
Depth	6.00

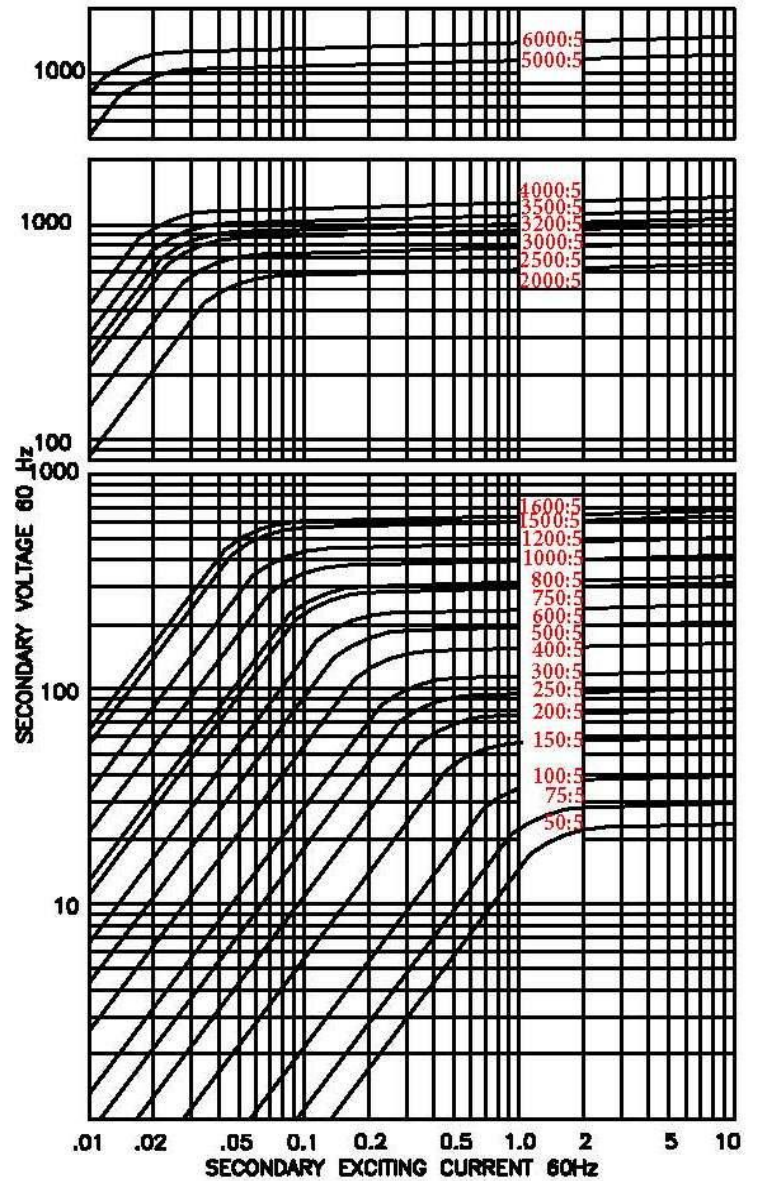
MODEL 143
Window Diameter 7.31"
Approximate weight: 60 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
143 – 500	50:5	C20	4.8	4.8	-	-	-	0.014	2	2
143 – 750	75:5	C20	2.4	2.4	-	-	-	0.042	2	2
143 – 101	100:5	C20	1.2	2.4	4.8	-	-	0.056	2	2
143 – 151	150:5	C20	0.6	0.6	1.2	4.8	4.8	0.121	2	2
143 – 201	200:5	C50	0.3	0.3	0.6	2.4	2.4	0.161	2	2
143 – 251	250:5	C50	0.3	0.3	0.6	1.2	2.4	0.175	2	2
143 – 301	300:5	C100	0.3	0.3	0.3	1.2	1.2	0.241	2	2
143 – 401	400:5	C100	0.3	0.3	0.3	0.6	0.6	0.322	2	2
143 – 501	500:5	C100	0.3	0.3	0.3	0.3	0.6	0.441	2	2
143 – 601	600:5	C200	0.3	0.3	0.3	0.3	0.3	0.530	2	1.5
143 – 751	750:5	C200	0.3	0.3	0.3	0.3	0.3	0.662	2	1.5
143 – 801	800:5	C200	0.3	0.3	0.3	0.3	0.3	0.706	2	1.5
143 – 102	1000:5	C200	0.3	0.3	0.3	0.3	0.3	0.883	1.5	1.33
143 – 122	1200:5	C400	0.3	0.3	0.3	0.3	0.3	1.059	1.5	1
143 – 152	1500:5	C400	0.3	0.3	0.3	0.3	0.3	1.324	1.5	1
143 – 162	1600:5	C400	0.3	0.3	0.3	0.3	0.3	1.413	1.33	1
143 – 202	2000:5	C400	0.3	0.3	0.3	0.3	0.3	1.678	1.33	1
143 – 252	2500:5	C400	0.3	0.3	0.3	0.3	0.3	2.097	1	0.8
143 – 302	3000:5	C800	0.3	0.3	0.3	0.3	0.3	2.516	1	0.8
143 – 322	3200:5	C800	0.3	0.3	0.3	0.3	0.3	2.684	1	0.8
143 – 352	3500:5	C800	0.3	0.3	0.3	0.3	0.3	2.936	1	0.8
143 – 402	4000:5	C800	0.3	0.3	0.3	0.3	0.3	3.353	1	0.6
143 – 502	5000:5	C800	0.3	0.3	0.3	0.3	0.3	3.983	1	0.6
143 – 602	6000:5	C800	0.3	0.3	0.3	0.3	0.3	4.780	0.8	0.6

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



EXCITATION CURVE





Current Transformer

Model 143MR

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

7.31"

APPROXIMATE WEIGHT:

60 lbs.

CONNECTIONS:

- Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Mounting kit – 59-0215 (CR) and 59-0216 (CL)

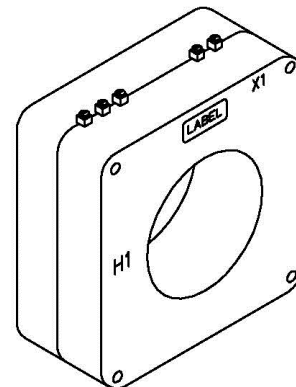
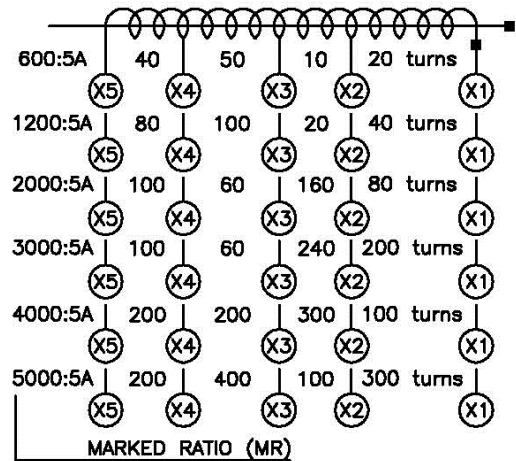
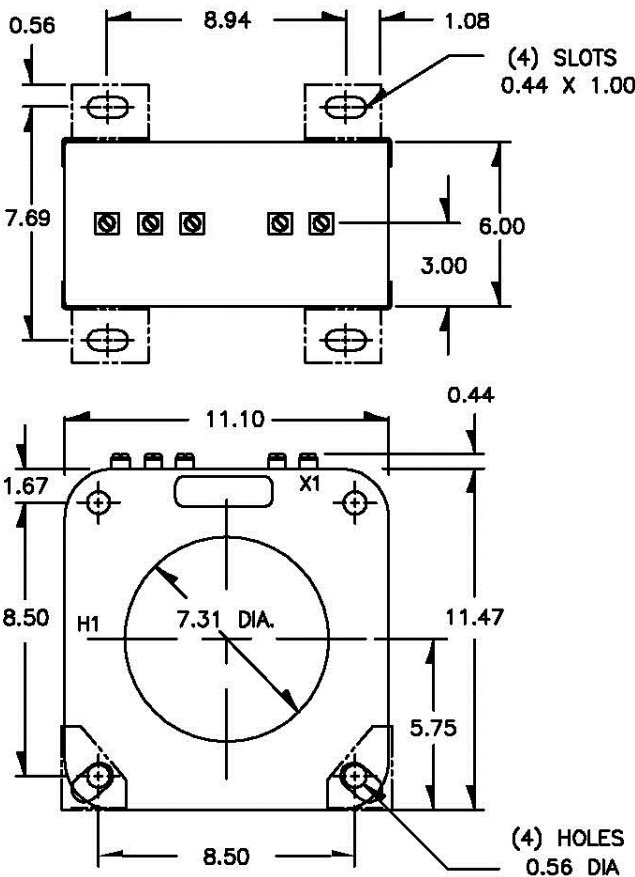


Model	143MR
Window Size	7.31
Width	11.10
Height	11.47
Depth	6.00

CERTIFICATIONS:



MODEL 143MR
Window Diameter 7.31"
Approximate weight: 60 lbs.





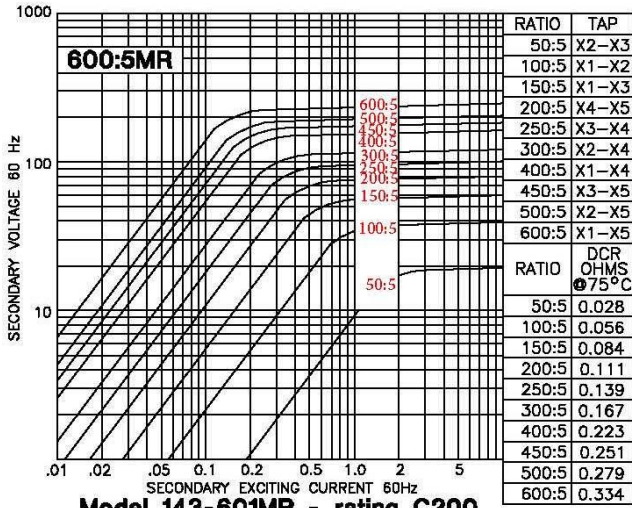
TTL Transformer Technologies Ltd.



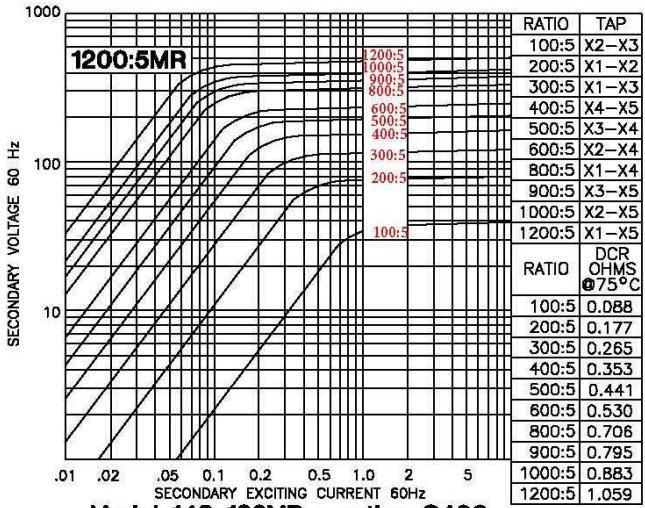
Current Transformer

Model 143MR

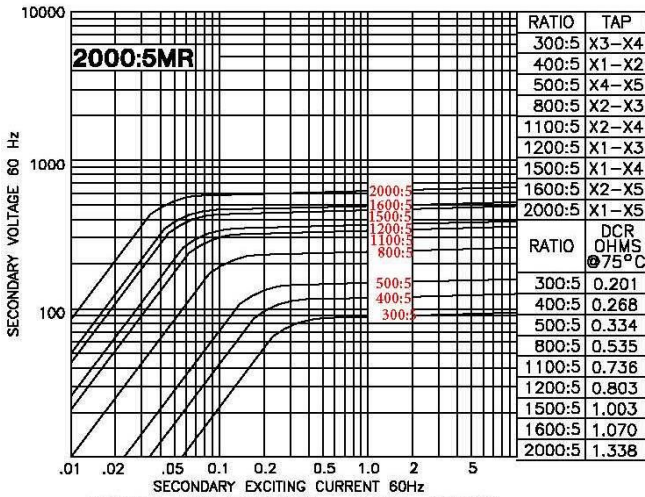
EXCITATION CURVE



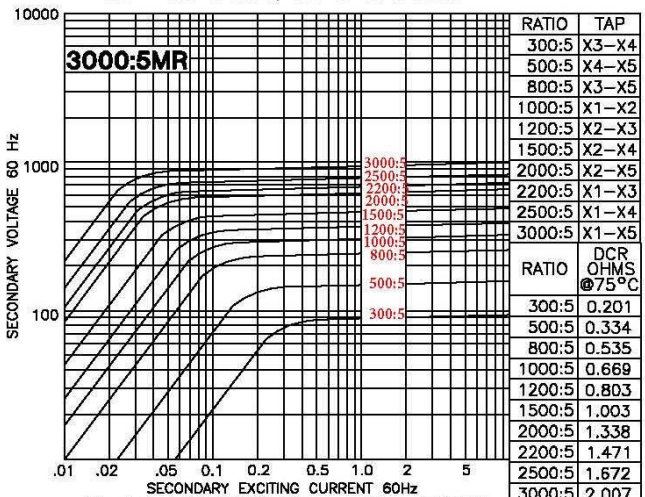
Model 143-601MR - rating C200
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



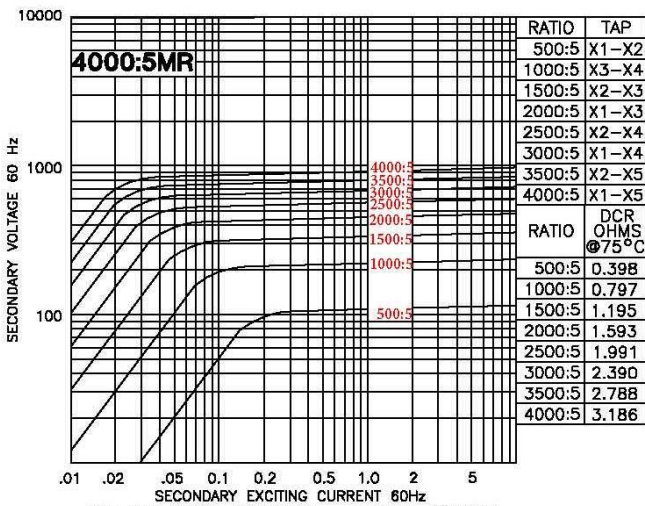
Model 143-122MR - rating C400
TRF= 1.5 @ 30°C, 1.0 @ 55°C amb.



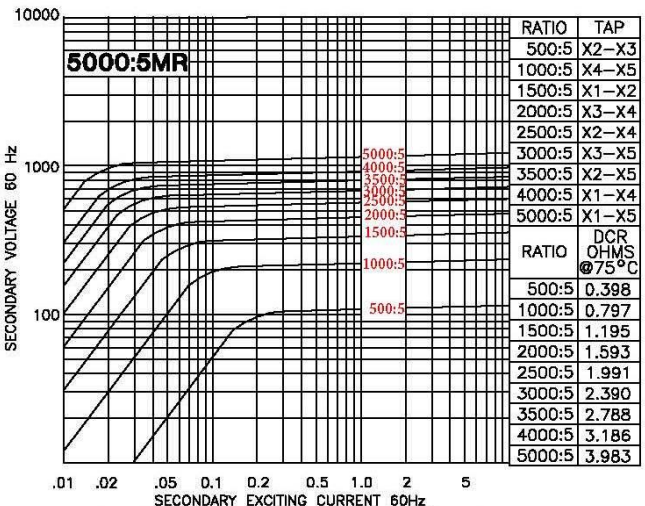
Model 143-202MR - rating C400
TRF= 1.33 @ 30°C, 1.0 @ 55°C amb.



Model 143-302MR - rating C800
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 143-402MR - rating C800
TRF= 1.0 @ 30°C, 0.6 @ 55°C amb.



Model 143-502MR - rating C800
TRF= 1.0 @ 30°C, 0.6 @ 55°C amb.



Current Transformer

Model 141

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

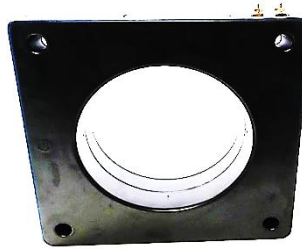
8.13"

APPROXIMATE WEIGHT:

44 lbs.

CONNECTIONS:

-Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut.



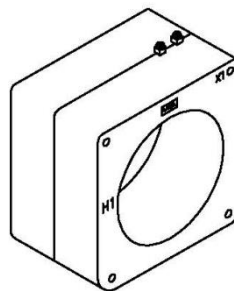
Model	141
Window Size	8.13
Width	11.10
Height	11.47
Depth	6.00

CERTIFICATIONS:



MODEL 141
Window Diameter 8.13"
Approximate weight: 44 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
141 – 500	50:5	C10	4.8	-	-	-	-	0.033	2	2
141 – 101	100:5	C10	2.4	2.4	-	-	-	0.066	2	2
141 – 201	200:5	C20	0.6	1.2	1.2	2.4	4.8	0.117	2	2
141 – 301	300:5	C50	0.6	0.6	1.2	1.2	2.4	0.248	2	2
141 – 401	400:5	C50	0.3	0.3	0.6	0.6	1.2	0.277	2	2
141 – 501	500:5	C100	0.3	0.3	0.3	0.6	0.6	0.415	2	2
141 – 601	600:5	C100	0.3	0.3	0.3	0.3	0.6	0.498	2	1.5
141 – 801	800:5	C100	0.3	0.3	0.3	0.3	0.3	0.664	2	1.5
141 – 102	1000:5	C200	0.3	0.3	0.3	0.3	0.3	0.829	2	1.5
141 – 122	1200:5	C200	0.3	0.3	0.3	0.3	0.3	1.009	2	1.5
141 – 152	1500:5	C400	0.3	0.3	0.3	0.3	0.3	1.253	2	1.5
141 – 202	2000:5	C400	0.3	0.3	0.3	0.3	0.3	1.659	1.33	1
141 – 252	2500:5	C400	0.3	0.3	0.3	0.3	0.3	0.963	1.5	1.33
141 – 302	3000:5	C400	0.3	0.3	0.3	0.3	0.3	2.356	1.5	1
141 – 402	4000:5	C400	0.3	0.3	0.3	0.3	0.3	3.141	1	0.8
141 – 502	5000:5	C200	0.3	0.3	0.3	0.3	0.3	2.862	1	0.8
141 – 602	6000:5	C400	0.3	0.3	0.3	0.3	0.3	4.302	1	0.8



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

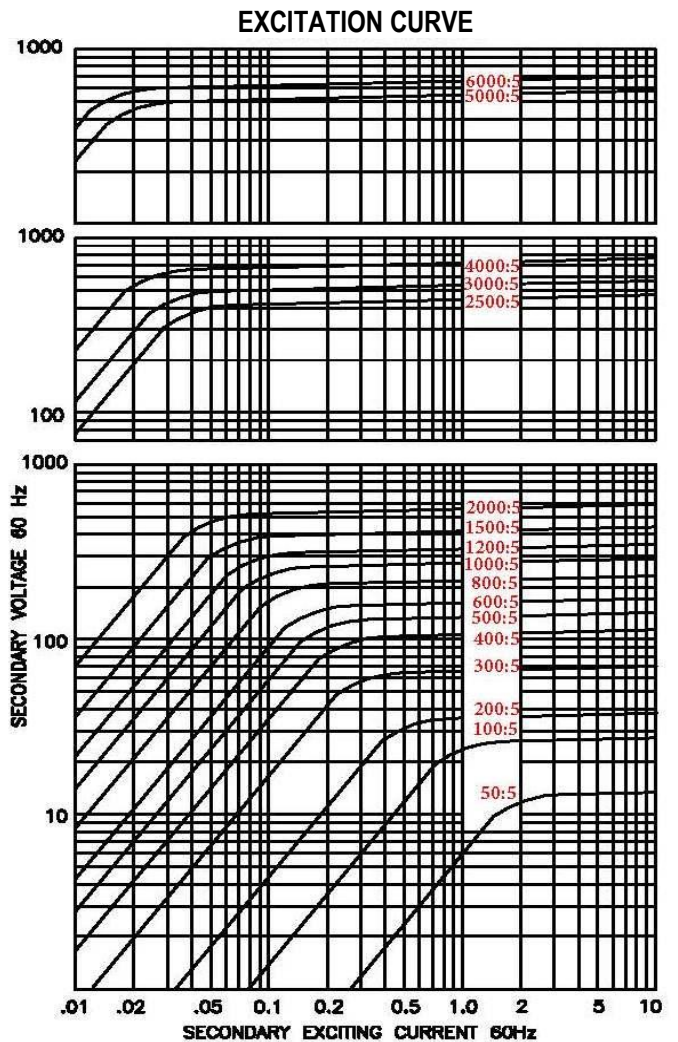
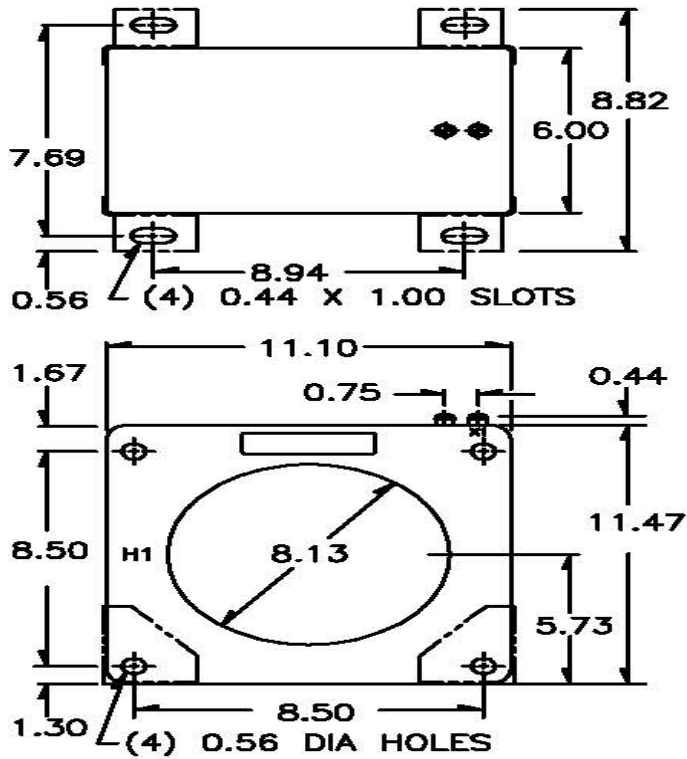


TTL Transformer Technologies Ltd.



Current Transformer

Model 141



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Current Transformer

Model 141MR

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

8.13"

APPROXIMATE WEIGHT:

44 lbs.

CONNECTIONS:

-Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut.



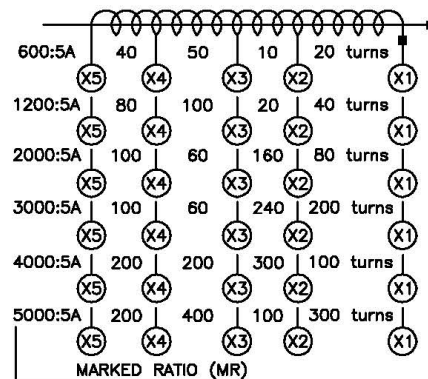
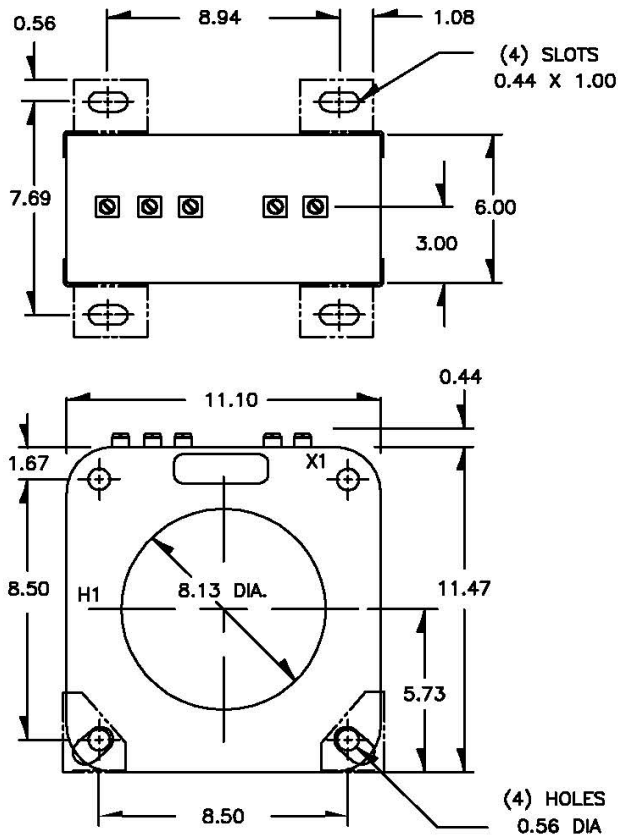
Model	141MR
Window Size	8.13
Width	11.10
Height	11.47
Depth	6.00

CERTIFICATIONS:



MODEL 141MR
Window Diameter 8.13"
Approximate weight: 44 lbs.

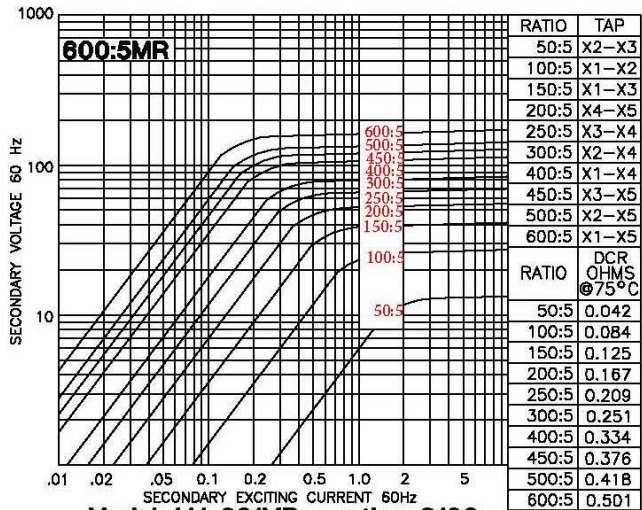
Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
141-601MR	C100	2.0	1.5
141-122MR	C200	2.0	1.5
141-202MR	C400	1.33	1.0
141-302MR	C400	1.5	1.33
141-402MR	C400	1.0	0.8
141-502MR	C200	1.0	0.8



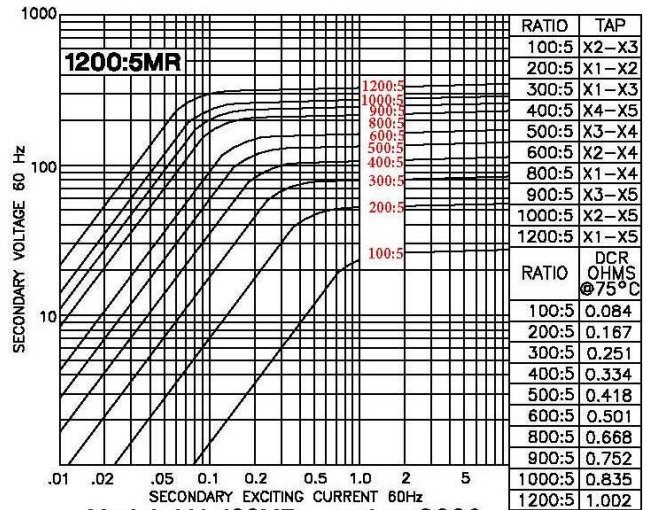
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



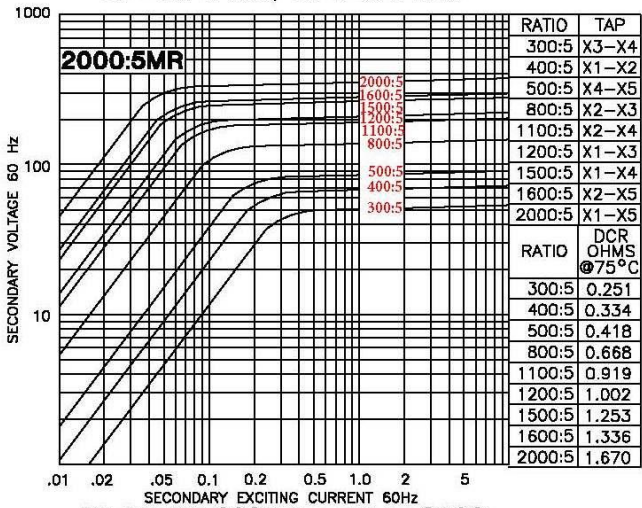
EXCITATION CURVE



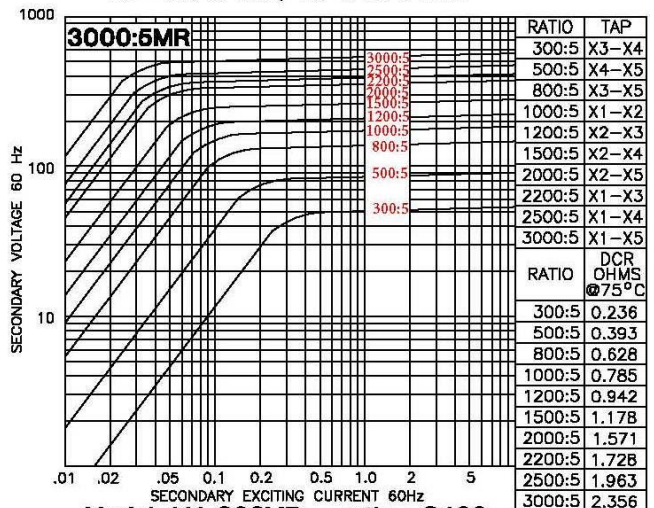
Model 141-601MR - rating C100
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



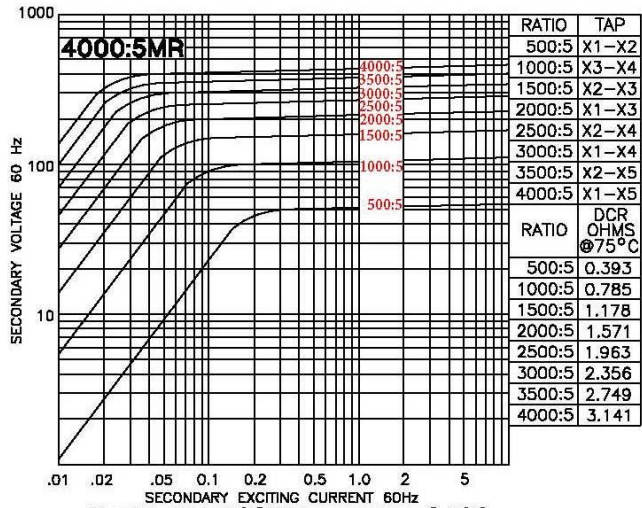
Model 141-122MR - rating C200
TRF= 2.0 @ 30°C, 1.5 @ 55°C amb.



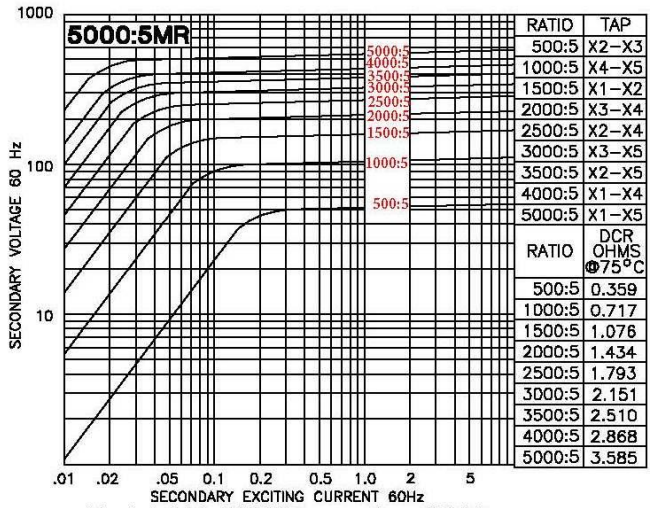
Model 141-202MR - rating C400
TRF= 1.33 @ 30°C, 1.0 @ 55°C amb.



Model 141-302MR - rating C400
TRF= 1.5 @ 30°C, 1.33 @ 55°C amb.



Model 141-402MR - rating C400
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 141-502MR - rating C200
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Current Transformer

Model 125

APPLICATION:

Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

6.31"

APPROXIMATE WEIGHT:

3 lbs.

CONNECTIONS:

- Terminals are brass studs No. 8-32 UNC with one flat washer, lockwasher, and regular nut
- Brackets 59-0215 (CR) and 59-0216 (CL)



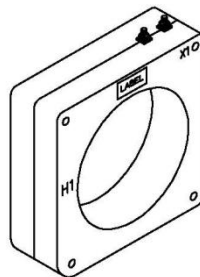
Model	125
Window Size	6.31
Width	8.50
Height	8.50
Depth	1.28

CERTIFICATIONS:



MODEL 125
Window Diameter 6.31"
Approximate weight: 3 lbs.

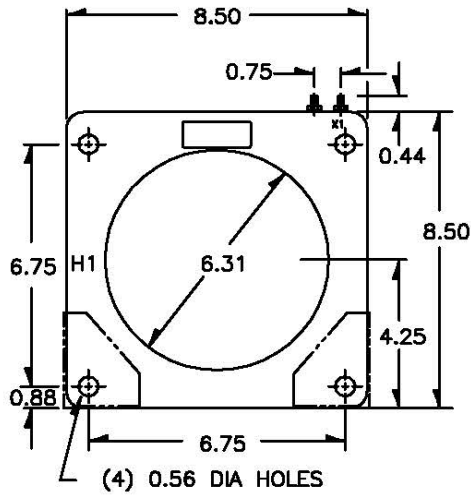
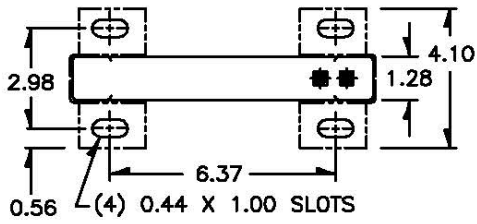
CATALOG NUMBER	CURRENT RATIO	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
		B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
125 - 601	600:5	0.3	0.3	1.2	1.2	2.4	0.071	1.5	1.33
125 - 751	750:5	0.3	0.3	0.6	1.2	2.4	0.143	1.5	1.33
125 - 801	800:5	0.3	0.3	0.6	1.2	2.4	0.116	1.5	1.33
125 - 102	1000:5	0.3	0.3	0.3	0.6	1.2	0.187	1.5	1.33
125 - 122	1200:5	0.3	0.3	0.3	0.6	1.2	0.224	1.5	1.33
125 - 152	1500:5	0.3	0.3	0.3	0.3	0.6	0.285	1.5	1.33
125 - 162	1600:5	0.3	0.3	0.3	0.3	0.6	0.304	1.5	1.33
125 - 202	2000:5	0.3	0.3	0.3	0.3	0.6	0.280	1.5	1.0
125 - 252	2500:5	0.3	0.3	0.3	0.3	0.6	0.351	1.33	1.0
125 - 302	3000:5	0.3	0.3	0.3	0.3	0.6	0.421	1.33	1.0
125 - 352	3500:5	0.3	0.3	0.3	0.3	0.3	0.491	1.33	1.0
125 - 402	4000:5	0.3	0.3	0.3	0.3	0.3	0.696	1.0	0.8



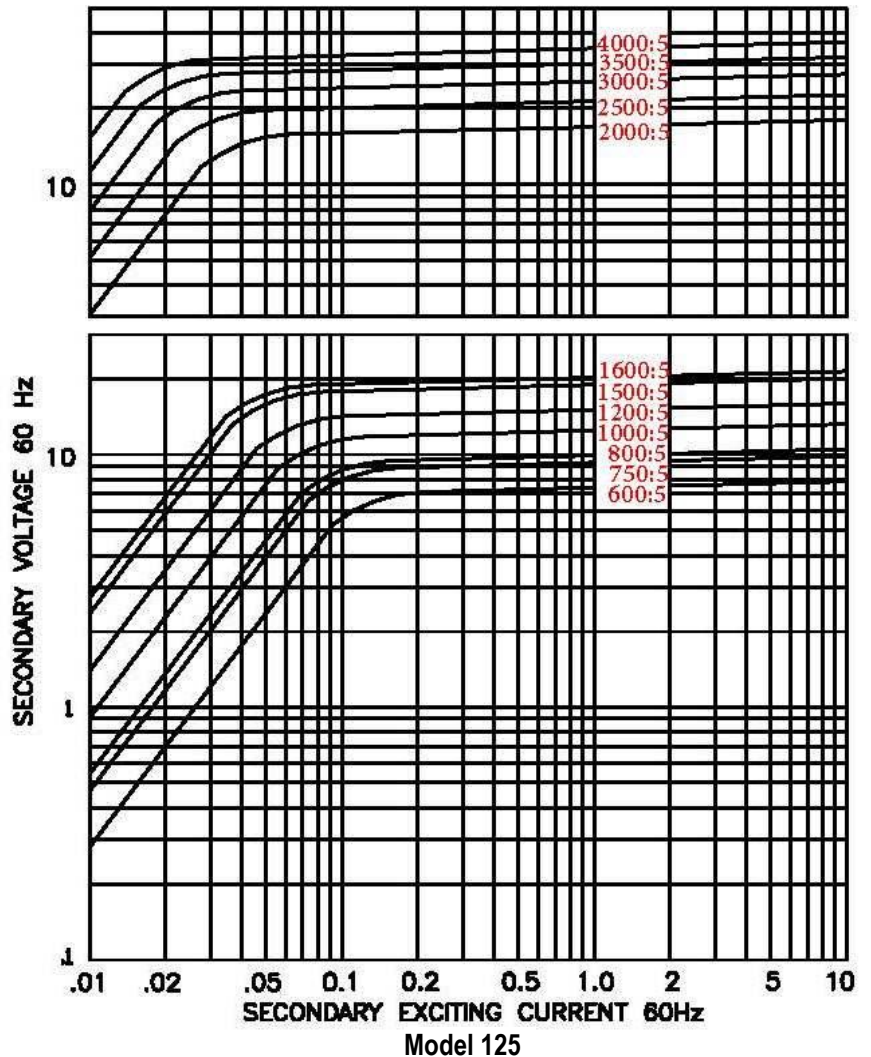
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Model 125



EXCITATION CURVE





Current Transformer

Model 140

APPLICATION:

Relaying and metering.

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

8.13"

APPROXIMATE WEIGHT:

22 lbs.

CONNECTIONS:

- Terminals are brass connections No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Multi-ratios available upon request
- Mounting Kit – 59-0215 (CR) and 59-0216 (CL)



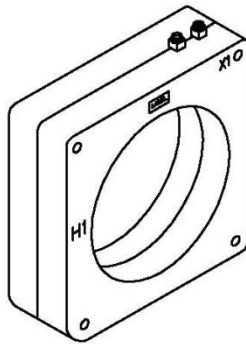
Model	140
Window Size	8.13
Width	11.10
Height	11.47
Depth	3.00

CERTIFICATIONS:



MODEL 140
Window Diameter 8.13"
Approximate weight: 22 lbs.

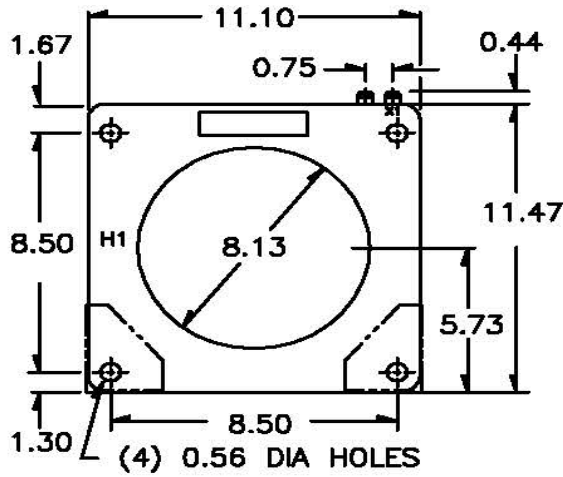
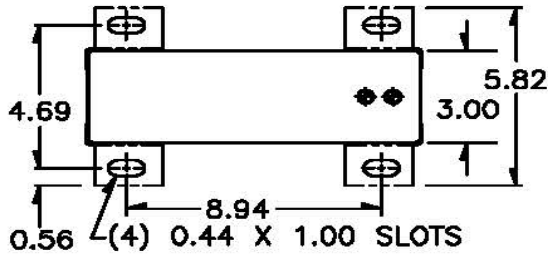
CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)	CONTINUOUS THERMAL RATING FACTOR	
			B0.1	B0.2	B0.5	B0.9	B1.8		@ 30°C	@ 55°C
140 – 500	50:5	-	-	-	-	-	-	0.022	2	2
140 – 101	100:5	-	2.4	4.8	-	-	-	0.043	2	2
140 – 201	200:5	C10	1.2	1.2	2.4	4.8	-	0.088	2	2
140 – 251	250:5	C20	1.2	1.2	2.4	2.4	4.8	0.110	2	2
140 – 301	300:5	C20	0.6	1.2	1.2	2.4	2.4	0.131	2	2
140 – 401	400:5	C20	0.3	0.3	0.6	1.2	2.4	0.150	2	2
140 – 501	500:5	C20	0.3	0.3	0.6	1.2	1.2	0.216	2	2
140 – 601	600:5	C50	0.3	0.3	0.3	0.6	1.2	0.276	2	2
140 – 801	800:5	C50	0.3	0.3	0.3	0.3	0.6	0.351	2	2
140 – 102	1000:5	C50	0.3	0.3	0.3	0.3	0.6	0.432	2	1.5
140 – 122	1200:5	C100	0.3	0.3	0.3	0.3	0.3	0.529	1.5	1.5
140 – 152	1500:5	C100	0.3	0.3	0.3	0.3	0.3	0.657	1.5	1
140 – 202	2000:5	C100	0.3	0.3	0.3	0.3	0.3	0.865	1.33	1
140 – 252	2500:5	C100	0.3	0.3	0.3	0.3	0.3	1.009	1.33	1
140 – 302	3000:5	C100	0.3	0.3	0.3	0.3	0.3	1.211	1	0.8
140 – 402	4000:5	C200	0.3	0.3	0.3	0.3	0.3	1.614	1	0.8
140 – 502	5000:5	C50	0.3	0.3	0.3	0.3	0.3	1.836	1	0.8
140 – 602	6000:5	C100	0.3	0.3	0.3	0.3	0.3	2.203	1	0.6



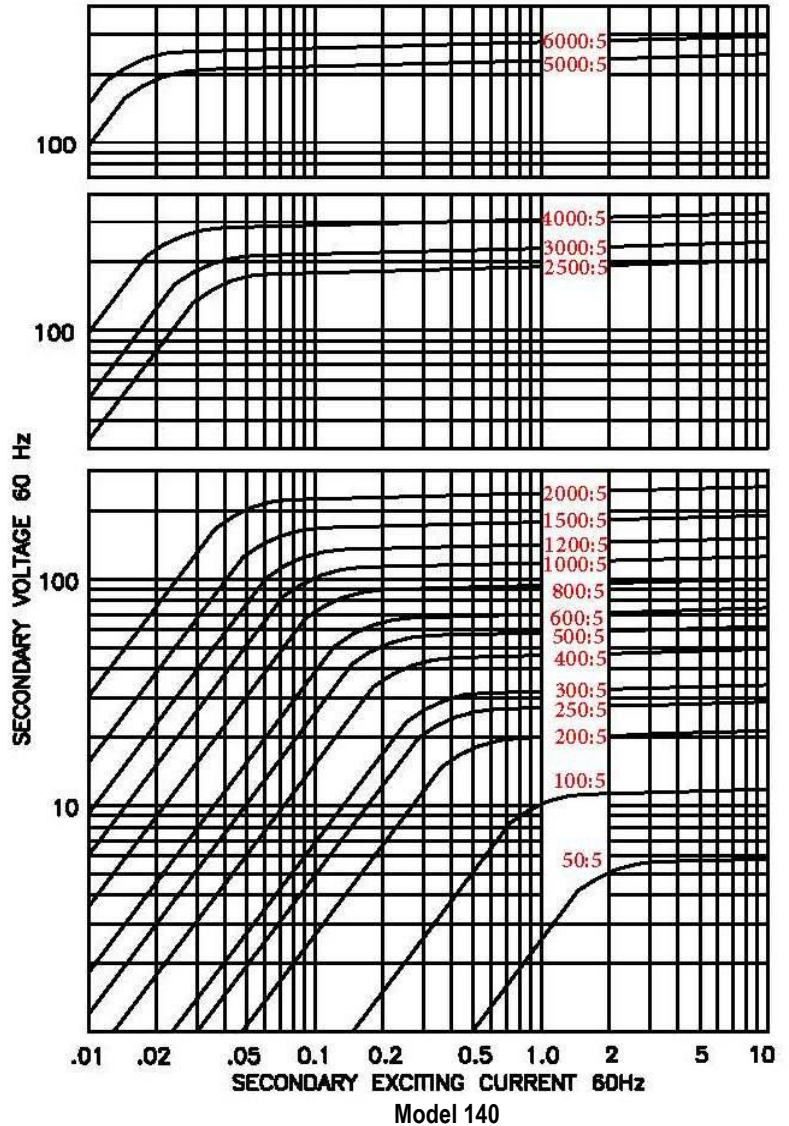
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Model 140



EXCITATION CURVE





Current Transformer

Model 140MR

APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

8.13"

APPROXIMATE WEIGHT:

22 lbs.

CONNECTIONS:

- Terminals are brass studs No. 10-32 UNF with one flat washer, lockwasher, and regular nut
- Mounting Kit – 59-0215 (CR) and 59-0216 (CL)



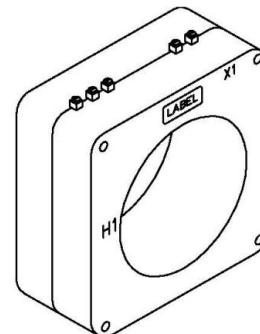
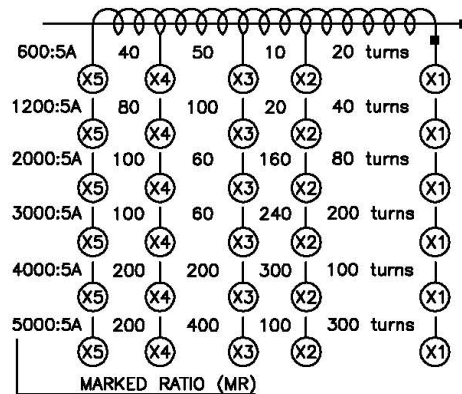
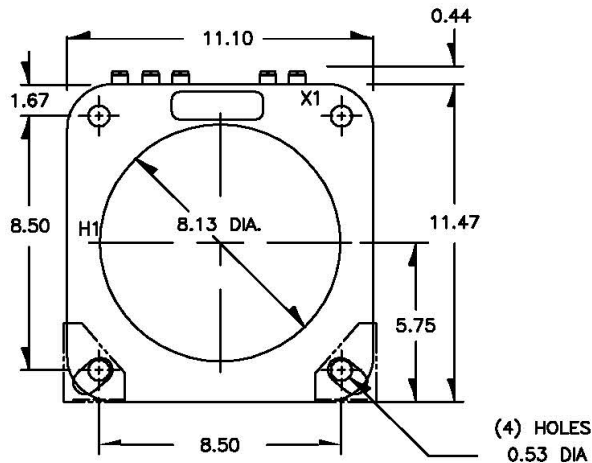
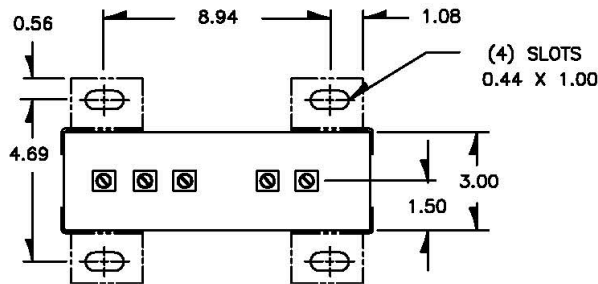
Model	140MR
Window Size	8.13
Width	11.10
Height	11.47
Depth	3.00

CERTIFICATIONS:



MODEL 140MR
 Window Diameter 8.13"
 Approximate weight: 22 lbs.

Catalog Number	Relay Class	Continuous Thermal	
		@ 30°C	@ 50°C
140-601MR	C50	2.0	2.0
140-122MR	C100	1.5	1.5
140-202MR	C100	1.33	1.0
140-302MR	C100	1.0	0.8
140-402MR	C100	1.0	0.8
140-502MR	C50	1.0	0.8



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



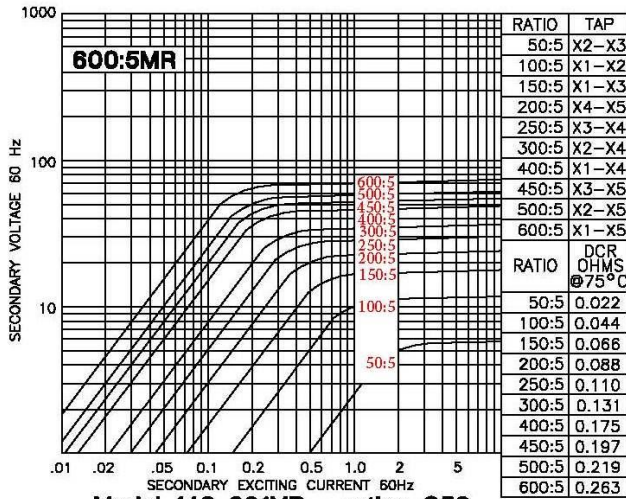
TTL Transformer Technologies Ltd.



Current Transformer

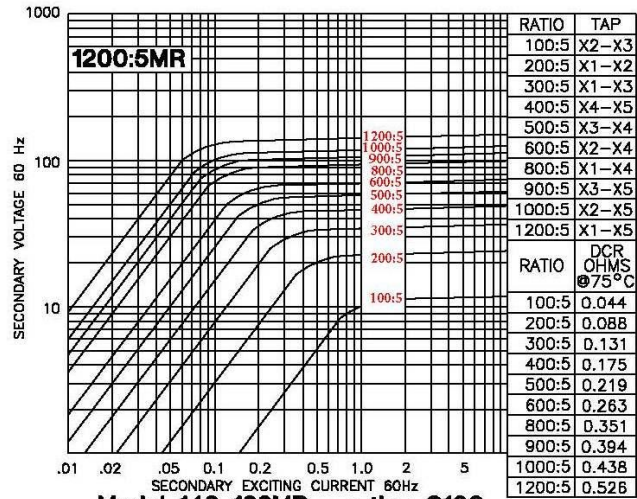
Model 140MR

EXCITATION CURVE



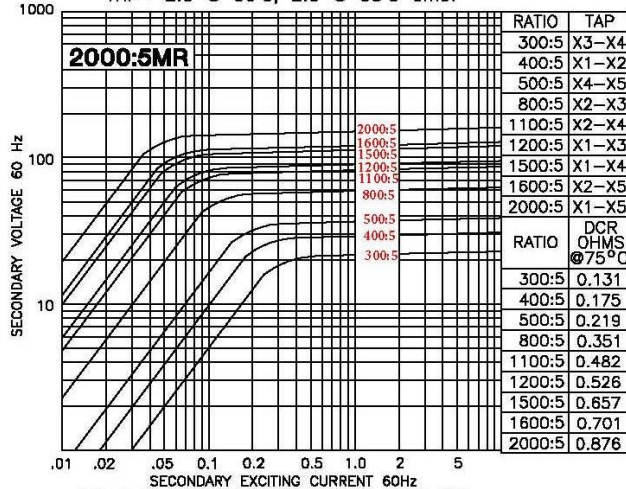
Model 140-601MR - rating C50

TRF= 2.0 @ 30°C, 2.0 @ 55°C amb.



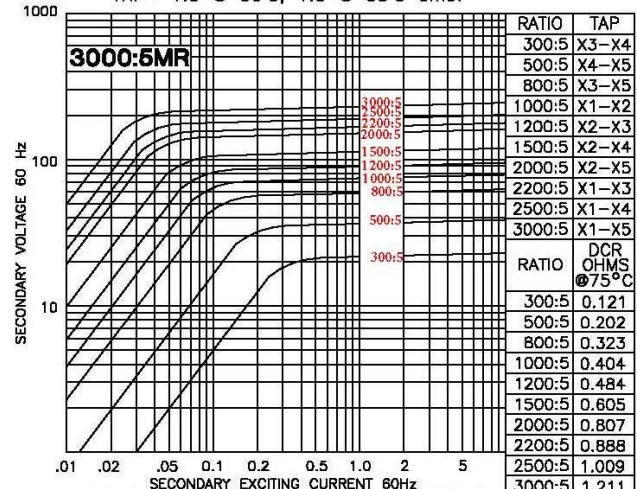
Model 140-122MR - rating C100

TRF= 1.5 @ 30°C, 1.5 @ 55°C amb.



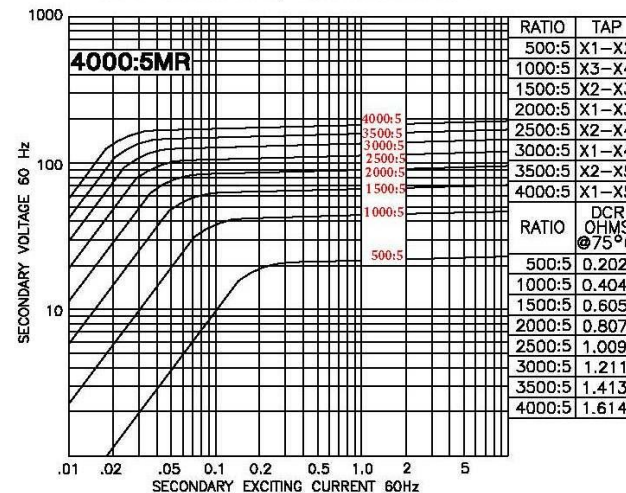
Model 140-202MR - rating C100

TRF= 1.33 @ 30°C, 1.0 @ 55°C amb.



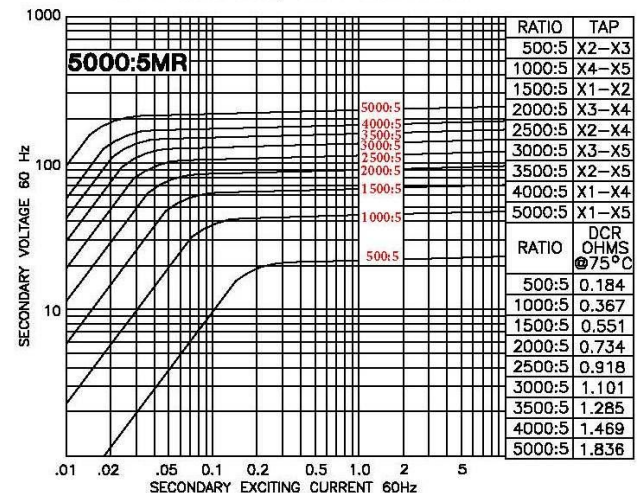
Model 140-302MR - rating C100

TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 140-402MR - rating C200

TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.



Model 140-502MR - rating C50

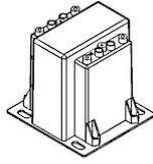
TRF= 1.0 @ 30°C, 0.8 @ 55°C amb.

VOLTAGE TRANSFORMERS

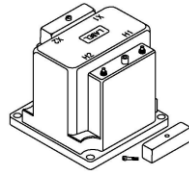
For Metering and Instrumentation

600V Voltage Transformers

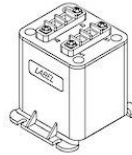
MODEL 450



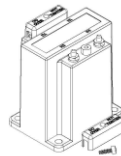
MODEL 460



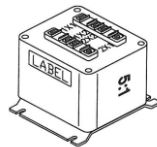
MODEL 467



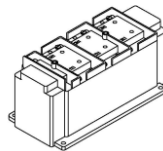
MODEL 468



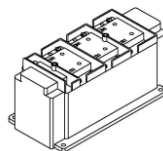
MODEL 2VT469



MODEL 3VTL460



MODEL 3VTN460





Voltage Transformer

Model 450

FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

ACCURACY CLASS:

0.3 W, X, M & Y, 1.2Z
@0.3 W, 0.6 X, M & Y

THERMAL RATING:

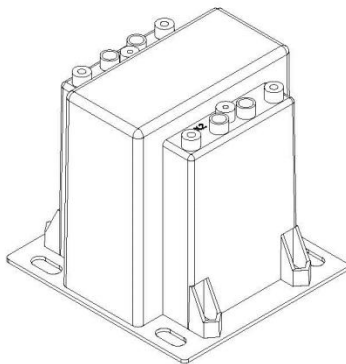
750 VA AT 30°C. AMB, 500 VA AT 55°C. amb.

APPROXIMATE WEIGHT:

25 lbs.

CONNECTIONS:

-The primary and secondary terminals are No. 10-32 screws into 3/8" deep brass inserts are fitted with one lockwasher and flat washer and are contained in a sealable terminal cover



CERTIFICATIONS:



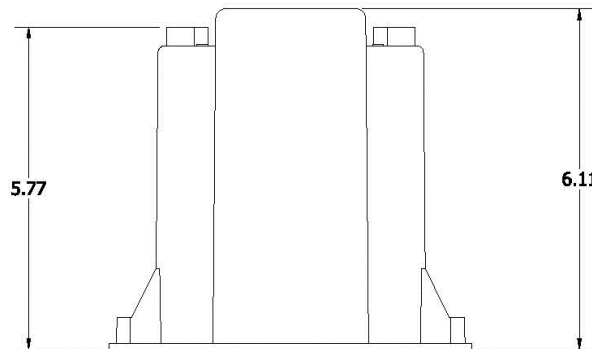
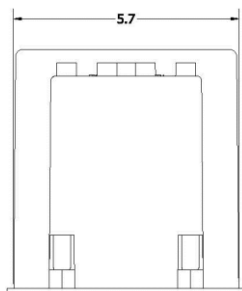
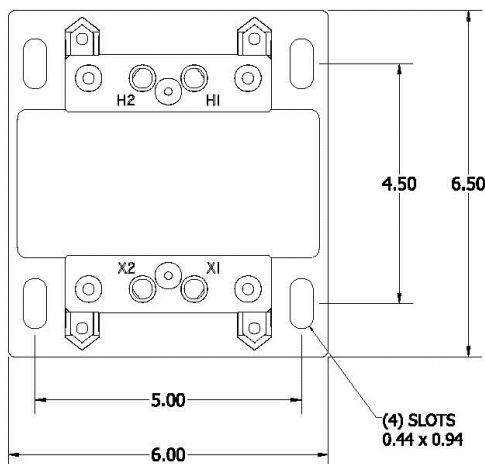
MODEL 450

Approximate weight: 25 lbs.

CATALOG NUMBER NOT FUSED	VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
**450-069	69.3:120	0.58:1	15.0
**450-120	120:120	1:1	10.0
450-208	208:120	1.73:1	8.0
450-240	240:120	2:1	8.0
450-277	277:120	2.31:1	8.0
450-288	288:120	2.4:1	6.0
450-300	300:120	2.5:1	6.0
450-346	346:120	2.88:1	5.0
450-480*	480:120	4:1	4.0
450-600*	600:120	5:1	3.0

*Models marked ** have Accuracy Class of 0.3 W, 0.6 X, M & Y – All others without asterisks are 0.3 W, X, M & Y, 1.2Z

- Core and coil assembly is encased in a thermoplastic shell and filled with resin.
- These transformers are designed for operation line to line. They may also be operated line to ground or line to neutral at reduced voltage, (58% of rated volts).
- It is desirable to use an 8.0 Amp BBS type or equal fuse in the secondary to protect the transformer.
- With two exceptions these transformers are ANSI C57.13 group 1. Those marked * are group 2.
- Model designed specifically for 50Hz operation are available with reduced performance consult factory for details.



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Voltage Transformer

Model 460

CERTIFICATIONS:



FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

ACCURACY CLASS:

0.6 W, 1.2 X at 60 Hz

THERMAL RATING:

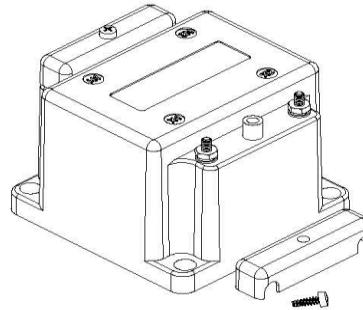
150 VA AT 30°C. AMB, 100 VA AT 55°C. amb.

APPROXIMATE WEIGHT:

7.75 lbs.

CONNECTIONS:

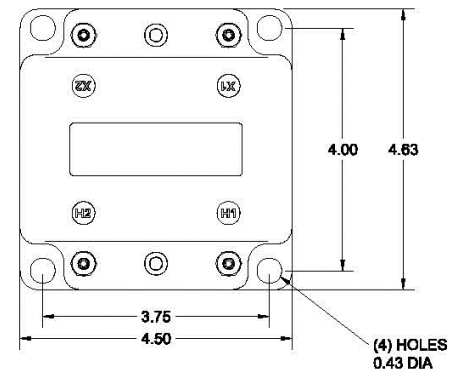
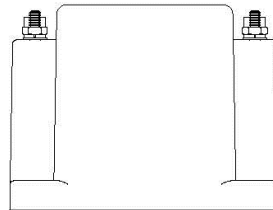
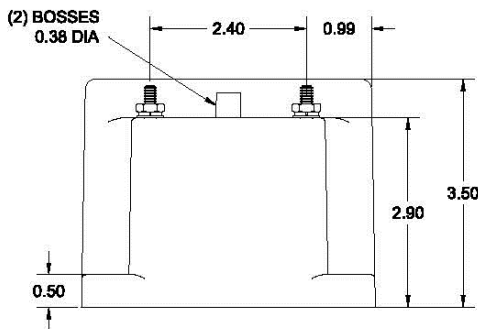
-Terminals are brass studs No. 10-32 with one lockwasher, flat washer, and regular nut



MODEL 460
Approximate weight: 7.75 lbs.

CATALOG NUMBER NOT FUSED	VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
460-069	69.3:120	0.58:1	5
460-120	120:120	1:1	4
460-208	208:120	1.73:1	2
460-240	240:120	2:1	2
460-277	277:120	2.31:1	2
460-288	288:120	2.4:1	1.5
460-300	300:120	2.5:1	1.5
460-346	346:120	2.88:1	1.5
460-480*	480:120	4:1	1
460-600*	600:120	5:1	0.75

- Each transformer has two plastic terminal covers.
- The core and coil assembly is encased in a thermoplastic shell and filled with resin.
- These transformers are designed for operation line to line. They may also be operated line to ground or line to neutral at reduced voltage (58% of rated volts).
- It is desirable to use a 1.6 amp fuse in the secondary to protect the transformer.
- With two exceptions these transformers are ANSI C57.13 group 1. Those marked * are group 2.
- Models designed specifically for 50 Hz operation are available with reduced performance consult factory for details.



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Voltage Transformer

Model 467

FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

ACCURACY CLASS:

± 1% at all burdens up to 5 VA at 1.0 and 0.95 P.F.

THERMAL RATING:

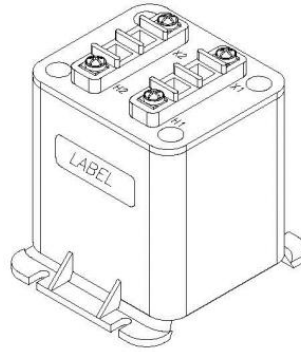
40 VA AT 30°c . amb, 27 VA AT 55°c. amb

APPROXIMATE WEIGHT:

2.5 lbs.

CONNECTIONS:

-Terminals are No. 6-32 screws with one lockwasher and one flat washer



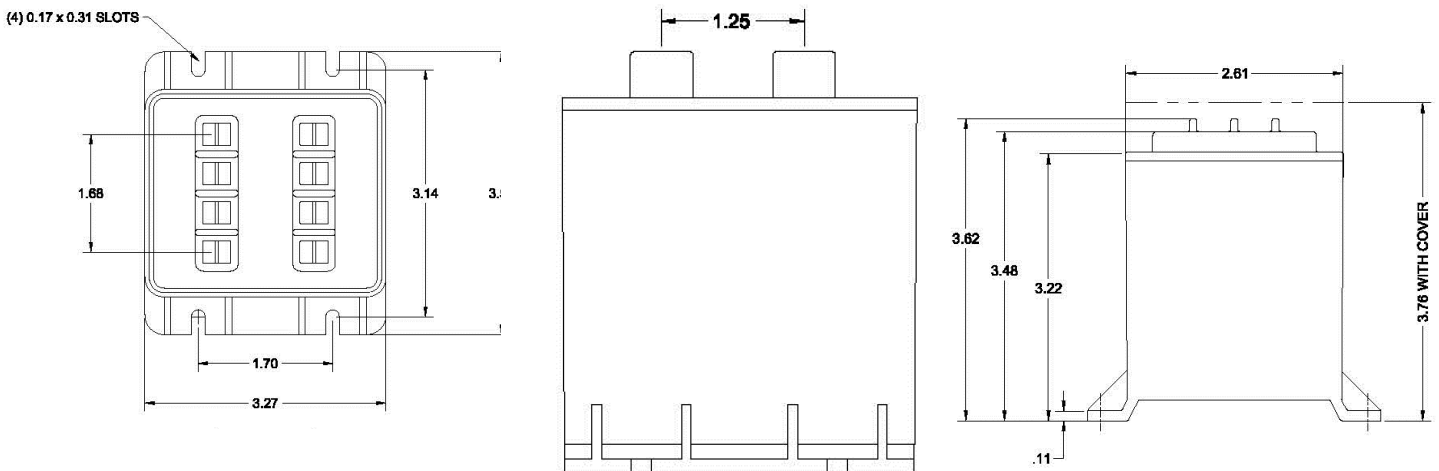
CERTIFICATIONS:



MODEL 467
Approximate weight: 2.5 lbs.

CATALOG NUMBER	VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
467-069	69.3:120	0.58:1	1.5
467-120	120:120	1:1	1
467-208	208:120	1.73:1	0.5
467-240	240:120	2:1	0.5
467-277	277:120	2.31:1	0.5
467-288	288:120	2.4:1	0.4
467-300	300:120	2.5:1	0.4
467-346	346:120	2.88:1	0.4
467-480*	480:120	4:1	0.25
467-600*	600:120	5:1	0.25

- The core and coil assembly is encased in a thermoplastic shell and filled with resin.
- Each transformer has a clear plastic terminal cover.
- These transformers are designed for operation line to line. They may also be operated line to ground or line to neutral at reduced voltage (58% of rated volts).
- It is desirable to use a 0.40 amp fuse in the secondary to protect the transformer.
- With two exceptions these transformers are ANSI C57.13 group 1. Those marked * are group 2.
- Models designed specifically for 50Hz operation are available with reduced performance consult factory for details.



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Voltage Transformer

Model 468

CERTIFICATIONS:



FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

ACCURACY CLASS:

± 0.6% at all burdens up to 7.5 VA and ±1.5% 20 VA Burden.

THERMAL RATING:

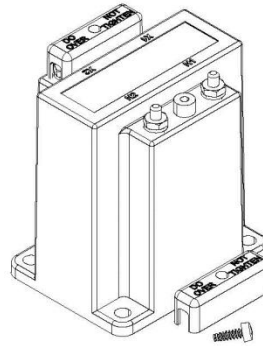
75 VA AT 30°c . amb., 50 VA AT 55°c. amb.

APPROXIMATE WEIGHT:

4 lbs.

CONNECTIONS:

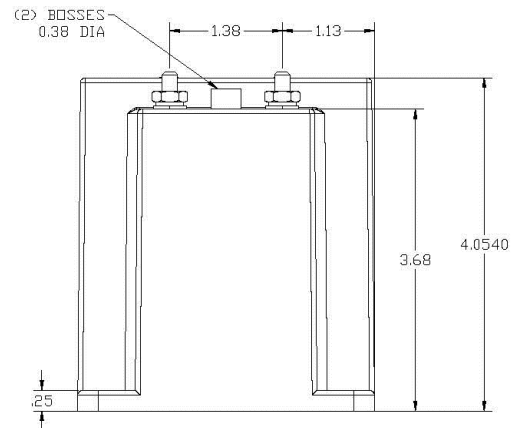
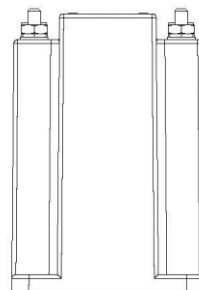
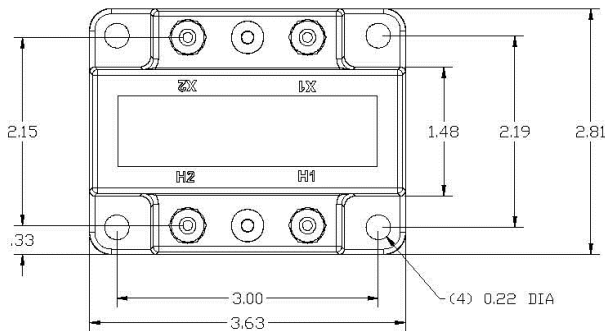
-Terminals are brass studs No. 10-32 screws with one lockwasher, one flat washer, and regular nut.



MODEL 468
Approximate weight: 4 lbs.

CATALOG NUMBER	VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
468-069	69.3:120	0.58:1	3
468-120	120:120	1:1	2
468-208	208:120	1.73:1	1
468-240	240:120	2:1	1
468-277	277:120	2.31:1	1
468-288	288:120	2.4:1	0.75
468-300	300:120	2.5:1	0.75
468-346	346:120	2.88:1	0.75
468-480*	480:120	4:1	0.50
468-600*	600:120	5:1	0.40

- The core and coil assembly is encased in a thermoplastic shell and filled with resin.
- Each transformer has two plastic terminal covers.
- These transformers are designed for operation line to line. They may also be operated line to ground or line to neutral at reduced voltage (58% of rated volts).
- It is desirable to use a 0.80 amp fuse in the secondary to protect the transformer.
- With two exceptions these transformers are ANSI C57. 13 group 1. Those marked * are group 2.
- Models 468-380, 468-400, 468-416 designed specifically for 50 Hz operation are available with reduced performance consult factory for details.



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Voltage Transformer

Model 2VT469

FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

ACCURACY CLASS:

± 1% at all burdens up to 5 VA at 1.0 and 0.95 P.F.

THERMAL RATING:

40 VA AT 30°c. amb

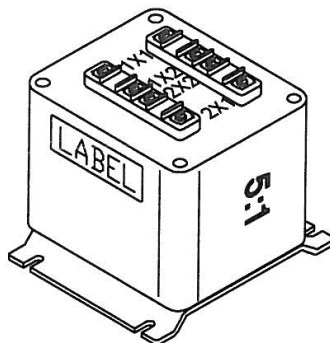
27 VA AT 55°c. amb.

APPROXIMATE WEIGHT:

4.5 lbs.

CONNECTIONS:

Terminals are No. 6-32 screws with one lockwasher and one flat washer



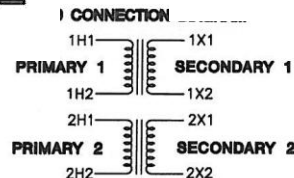
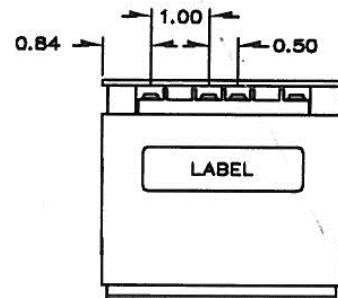
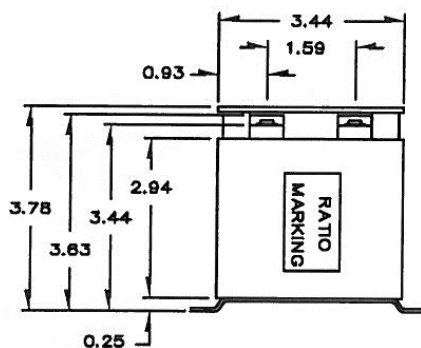
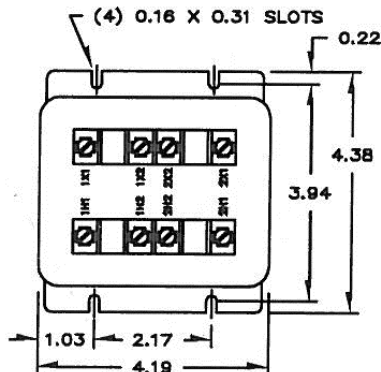
CERTIFICATIONS:



MODEL 2VT469
Approximate weight: 4.5 lbs.

CATALOG NUMBER	VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
2VT469-069	69.3:120	0.58:1	1.5
2VT469-120	120:120	1:1	1
2VT469-208	208:120	1.73:1	0.5
2VT469-240	240:120	2:1	0.5
2VT469-277	277:120	2.31:1	0.5
2VT469-288	288:120	2.4:1	0.4
2VT469-300	300:120	2.5:1	0.4
2VT469-346	346:120	2.88:1	0.4
2VT469-480*	480:120	4:1	0.25
2VT469-600*	600:120	5:1	0.25

- The core and coil assembly is encased in a thermoplastic shell and filled with resin.
- A clear plastic terminal cover is provided with each unit.
- These transformers are designed for operation line to line. They may also be operated line to ground or line to neutral at reduced voltage, (58% of rated volts).
- It is desirable to use a 0.40 amp fuse in the secondary to protect the transformer.
- With two exceptions these transformers are ANSI C57.13 group 1. Those marked * are group 2.
- Model 469 is an assembly of two transformers in one case with all terminals accessible, for open delta connection.



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3 Phase Voltage Transformer

Model 3VTL460

FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts Line-to-Line

ACCURACY CLASS: (Per Phase)

0.6 W, 1.2 X at 60 Hz

INSULATION LEVEL:

600 Volts, 10 kV BIL, full wave

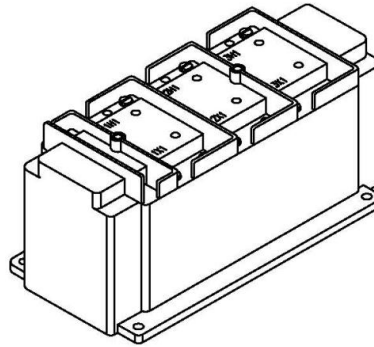
THERMAL RATING: (Per Phase)

150 VA at 30°C amb.

100 VA at 55°C. amb.

APPROXIMATE WEIGHT:

24 lbs.



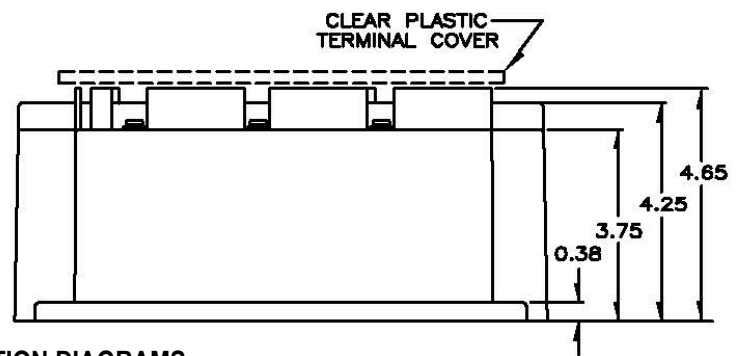
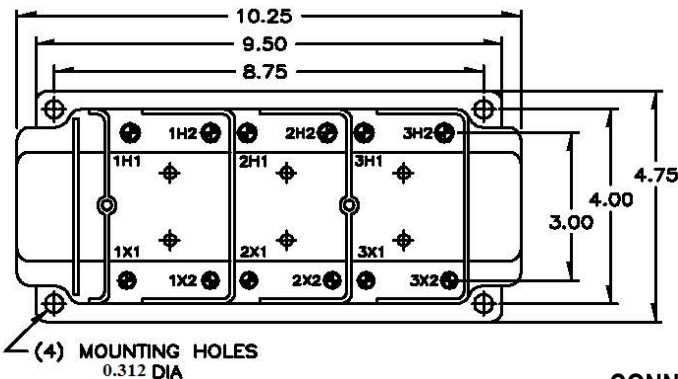
CERTIFICATIONS:



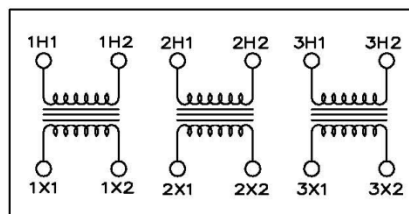
- The model 3VTL460 is an assembly of three transformers in one case.
- The primary and secondary terminals are No. 8-32 screws into 1/2" deep brass inserts fitted with one lockwasher and flat washer.
- The core and coil assembly is encased in a thermoplastic shell and filled with resin.
- These transformers are designed for operation line to line. All terminals are accessible.
- Spacing between live parts per U.L. 1558.
- The transformer has a clear plastic terminal cover.

MODEL 3VTL460
Approximate weight: 24 lbs.

CATALOG NUMBER	LINE TO LINE VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
3VTL460-120	120:120	1:1	4.0
3VTL460-208	208:120	1.73:1	2.0
3VTL460-240	240:120	2:1	2.0
3VTL460-288	288:120	2.4:1	1.5
3VTL460-480	480:120	4:1	1.0
3VTL460-600	600:120	5:1	0.75



CONNECTION DIAGRAMS



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3 Phase Voltage Transformer

Model 3VTN460

FREQUENCY:

60 Hz.

STANDARD SECONDARY VOLTAGE:

120 Volts Line-to-neutral

ACCURACY CLASS: (Per Phase)

0.6 W, 1.2 X at 60 Hz.

INSULATION LEVEL:

600 Volts, 10 kV BIL, full wave

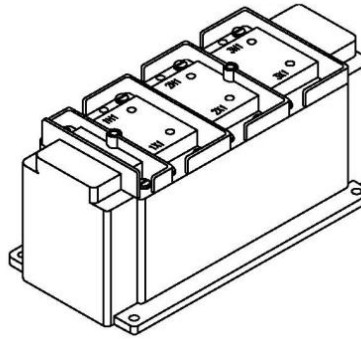
THERMAL RATING: (Per Phase)

150 VA at 30°C amb.

100 VA at 55°C. amb.

APPROXIMATE WEIGHT:

24 lbs.



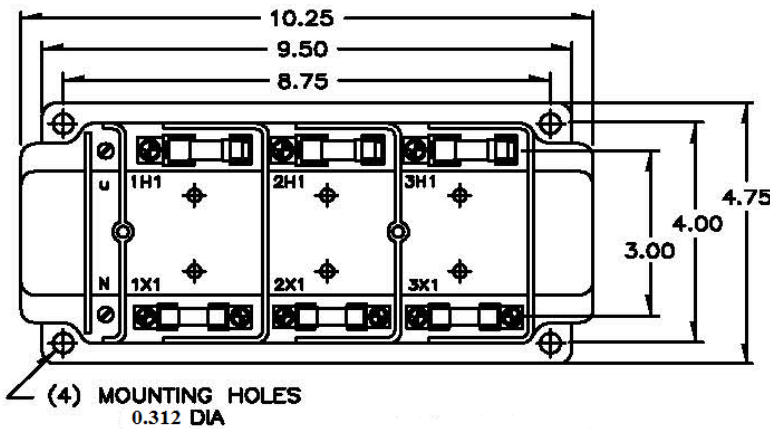
CERTIFICATIONS:



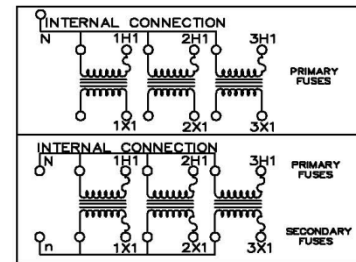
- The model 3VTN460 is an assembly of three transformers in one case.
- The primary and secondary terminals are No. 6-32 screws and fitted with one lockwasher and flat washer.
- The core and coil assembly is encased in a thermoplastic shell and filled with resin.
- These transformers are designed for operation line to neutral.
- Spacing between live parts per U.L. 1558.
- It is desirable to use a 1.6 amp BBS type or equal fuse in the secondary to protect the transformer.
- The transformer has a clear plastic terminal cover.
- Only ground N/n terminals if source is 3 phase, 4 wire effectively grounded.

MODEL 3VTN460
Approximate weight: 24 lbs.

CATALOG NUMBER	LINE TO NEUTRAL VOLTAGE RATING	TURNS RATIO	REC. PRIMARY FUSE RATING
3VTN460-069	69.3:120	0.58:1	5.0
3VTN460-120	120:120	1:1	4.0
3VTN460-240	240:120	2:1	2.0
3VTN460-277	277:120	2.31:1	2.0
3VTN460-300	300:120	2.5:1	1.5
3VTN460-346	346:120	2.88:1	1.5



CONNECTION DIAGRAMS



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CURRENT TRANSFORMERS

For Metering and Instrumentation

600V Current Transformers
ANSI Rated Bushing Type

WINDOW SIZES

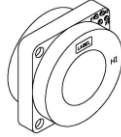
6.50"



MODEL 780

WINDOW SIZES

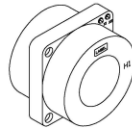
6.50"



MODEL 781MR

WINDOW SIZES

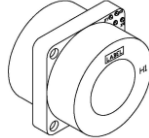
6.50"



MODEL 785

WINDOW SIZES

6.50"



MODEL 786MR



Current Transformer

Model 780

APPLICATION:

Relaying and Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

CONTINUOUS THERMAL RATING FACTOR:

50:5 thru 1200:5 2.0 at 30°C amb, 1.5 at 55°C amb, 1500:5 thru 4000:5 1.5 at 30°C amb., 1.33 at 55°C amb.

WINDOW DIAMETER:

6.50"

APPROXIMATE WEIGHT:

30 lbs.

CONNECTIONS:

-Secondary terminals are No. 10-32 brass screws with one flat washer, lockwasher and regular nut.



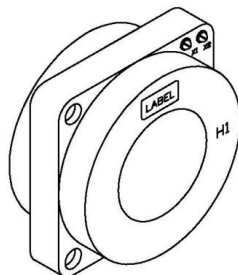
Model	780
Window Size	6.50
Width	9.88
Height	9.88
Depth	3.38

CERTIFICATIONS:



MODEL 780
Window Diameter 6.50"
Approximate weight: 30 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ					SECONDARY WINDING RESISTANCE (OHMS @ 75°C)
			B0.1	B0.2	B0.5	B0.9	B1.8	
780**-500	50:5	-	4.8	-	-	-	-	0.008
780**-750	75:5	C10	4.8	4.8	-	-	-	0.016
780**-101	100:5	C10	1.2	2.4	4.8	-	-	0.027
780**-151	150:5	C20	0.6	1.2	2.4	2.4	4.8	0.042
780**-201	200:5	C20	0.6	0.6	1.2	2.4	4.8	0.054
780**-251	250:5	C20	0.6	0.6	0.6	1.2	2.4	0.067
780**-301	300:5	C20	0.3	0.6	0.6	1.2	2.4	0.097
780**-401	400:5	C50	0.3	0.3	0.6	0.6	1.2	0.129
780**-501	500:5	C50	0.3	0.3	0.3	0.6	0.6	0.161
780**-601	600:5	C100	0.3	0.3	0.3	0.3	0.6	0.193
780**-751	750:5	C100	0.3	0.3	0.3	0.3	0.6	0.242
780**-801	800:5	C100	0.3	0.3	0.3	0.3	0.3	0.258
780**-102	1000:5	C100	0.3	0.3	0.3	0.3	0.3	0.322
780**-122	1200:5	C200	0.3	0.3	0.3	0.3	0.3	0.387
780**-152	1500:5	C200	0.3	0.3	0.3	0.3	0.3	0.608
780**-162	1600:5	C200	0.3	0.3	0.3	0.3	0.3	0.649
780**-202	2000:5	C200	0.3	0.3	0.3	0.3	0.3	0.588
780**-252	2500:5	C200	0.3	0.3	0.3	0.3	0.3	0.735
780**-302	3000:5	C200	0.3	0.3	0.3	0.3	0.3	1.105
780**-322	3200:5	C100	0.3	0.3	0.3	0.3	0.3	0.859
780**-352	3500:5	C100	0.3	0.3	0.3	0.3	0.3	0.940
780**-402	4000:5	C200	0.3	0.3	0.3	0.3	0.3	1.074



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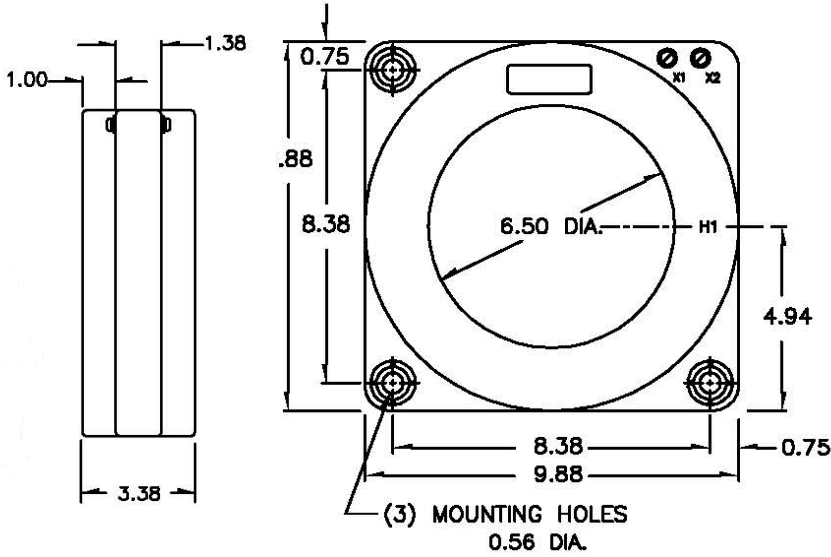
TTL Transformer Technologies Ltd.



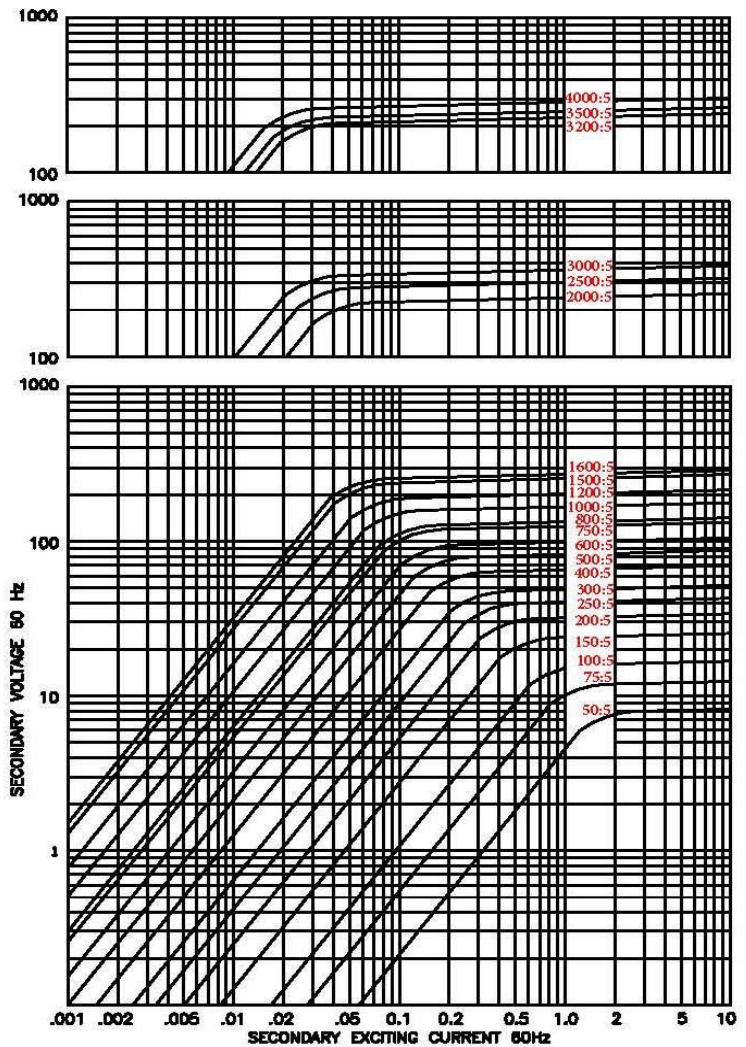
Current Transformer

Model 780

Model 780



EXCITATION CURVE



Model 780

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Current Transformer

Model 781MR

APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

WINDOW DIAMETER:

6.5"

APPROXIMATE WEIGHT:

31 lbs.

CONTINUOUS THERMAL CURRENT RATING FACTOR:

2.0 at 30°c amb., 1.5 at 55°c amb

CONNECTIONS:

-Secondary terminals are No. 10-32 brass screws with one flat washer, lockwasher, and regular nut



Model	781MR
Window Size	6.50
Width	9.88
Height	9.88
Depth	3.38

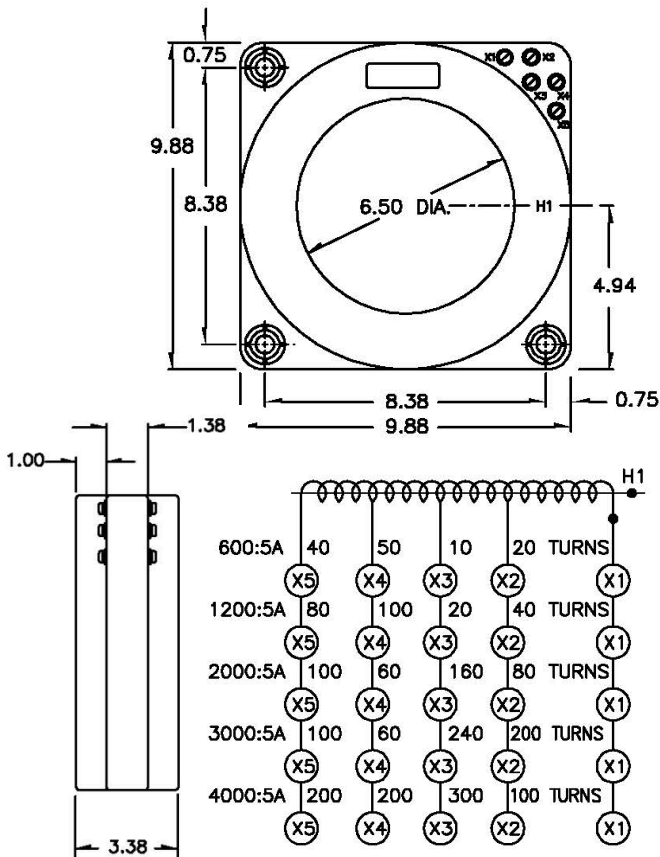
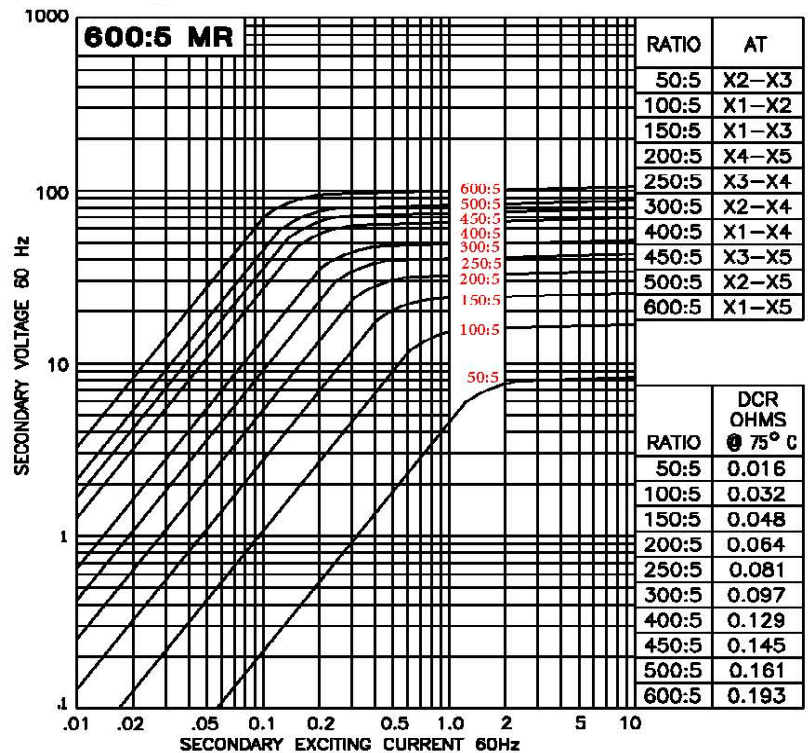
CERTIFICATIONS:



MODEL 781MR
Window Diameter 6.5"
Approximate weight: 31 lbs.

Catalog Number	Relay Class	ANSI Metering Class at 60Hz	Continuous Thermal	
			@ 30°C	@ 50°C
781-601MR	C100	0.3 B0.5	2.0	1.5
781-122MR	C200	0.3 B1.8	2.0	1.5
781-202MR	C200	0.3 B1.8	2.0	1.5
781-302MR	C200	0.3 B1.8	1.33	1.33
781-402MR	C200	0.3 B1.8	1.33	0.8

EXCITATION CURVE



MODEL 781 - 601MR - rating C100

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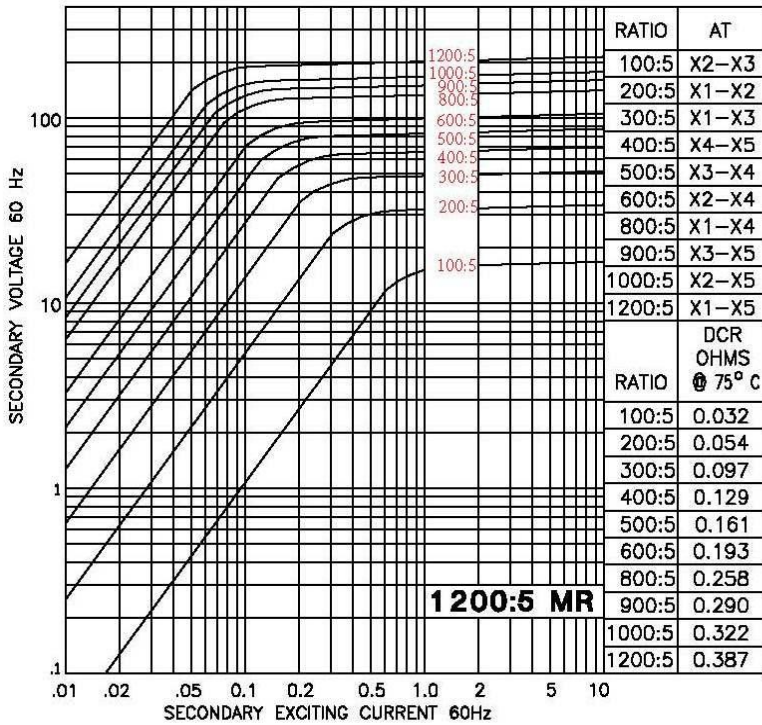
TTL Transformer Technologies Ltd.



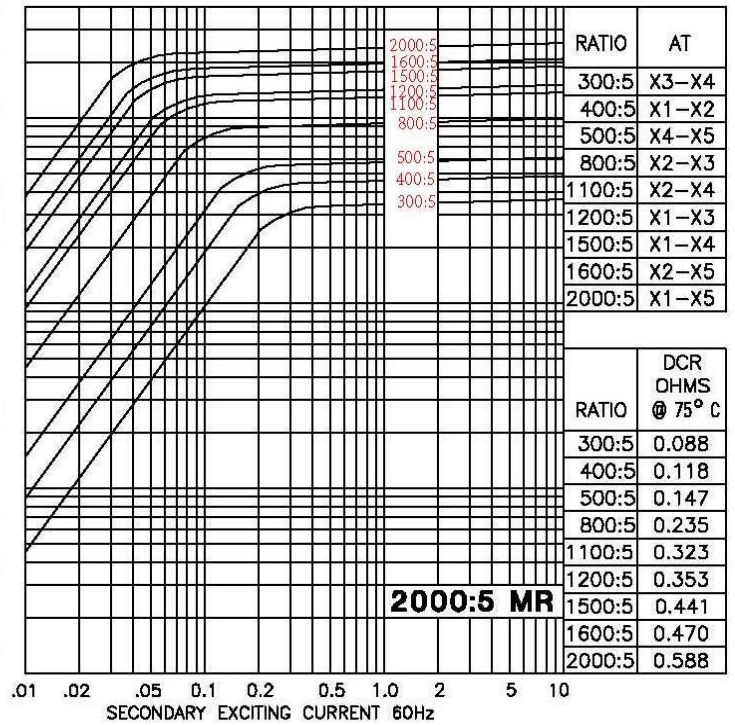
Current Transformer

Model 781MR

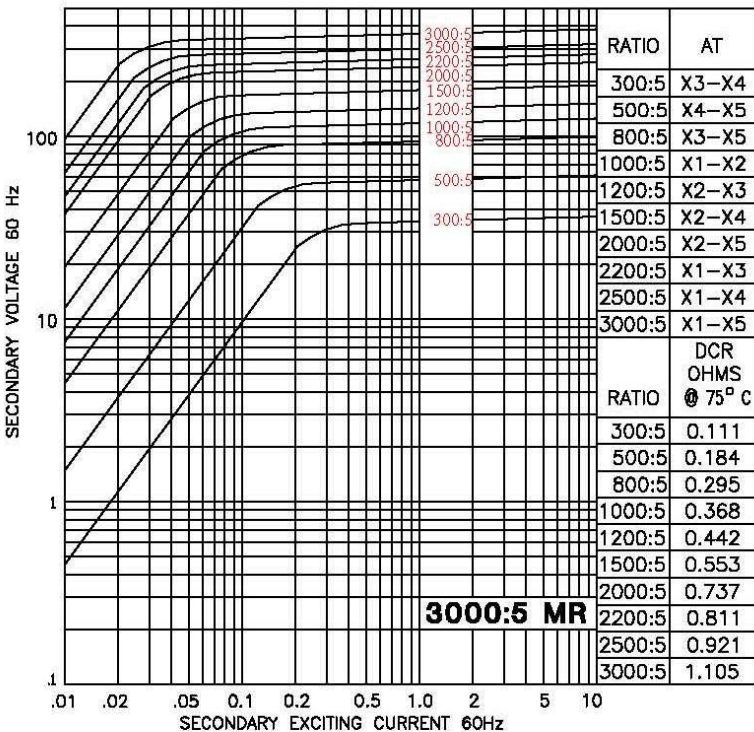
EXCITATION CURVES



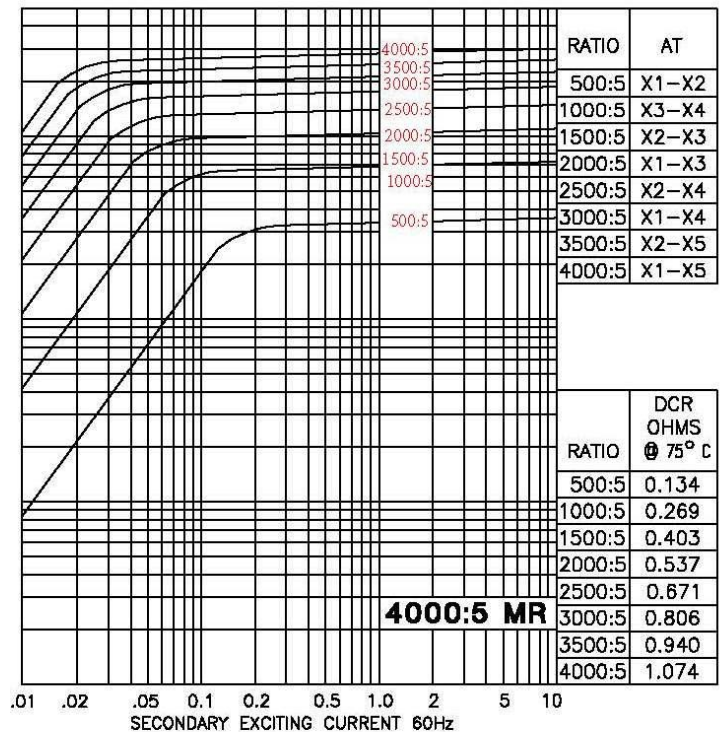
MODEL 781 - 122MR - rating C200



MODEL 781 - 202MR - rating C200



MODEL 781 - 302MR - rating C200



MODEL 781 - 402MR - rating C200



Current Transformer

Model 785

APPLICATION:

Relaying and Metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts. 10 kV BIL. full wave

CONTINUOUS THERMAL CURRENT RATING FACTOR:

50:5 thru 1200:5 2.0 at 30°C amb., 1.5 at 55°C amb.
 1500:5 thru 2500:5 1.5 at 30°C amb., 1.33 at 55°C amb.
 3000:5 thru 4000:5 1.33 at 30°C amb., 1.0 at 55°C amb.

WINDOW DIAMETER:

6.5"

APPROXIMATE WEIGHT:

58 lbs.

CONNECTIONS:

-Secondary terminals are No. 10-32 brass screws with one flat washer, lockwasher, and regular nut.



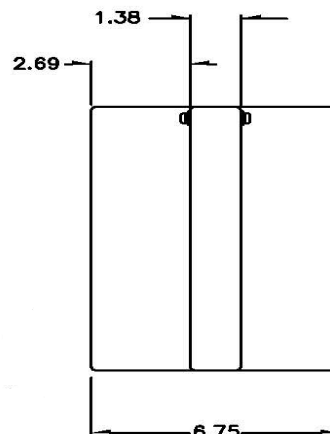
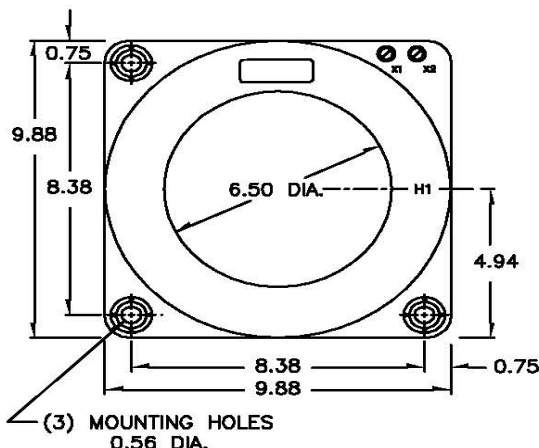
CERTIFICATIONS:



Model	785
Window Size	6.50
Width	9.88
Height	9.88
Depth	6.75

MODEL 785
 Window Diameter 6.5"
 Approximate weight: 58 lbs.

CATALOG NUMBER	CURRENT RATIO	RELAY CLASS	ANSI METERING CLASS AT 60 HZ				
			B0.1	B0.2	B0.5	B0.9	B1.8
785-500	50:5	C10	2.4	4.8	-	-	-
785-750	75:5	C20	1.2	1.2	4.8	-	-
785-101	100:5	C20	0.6	1.2	2.4	-	-
785-151	150:5	C50	0.6	0.6	1.2	2.4	-
785-201	200:5	C50	0.3	0.3	0.6	1.2	2.4
785-251	250:5	C50	0.3	0.3	0.6	1.2	2.4
785-301	300:5	C100	0.3	0.3	0.3	0.6	1.2
785-401	400:5	C100	0.3	0.3	0.3	0.6	1.2
785-501	500:5	C100	0.3	0.3	0.3	0.3	0.6
785-601	600:5	C200	0.3	0.3	0.3	0.3	0.6
785-751	750:5	C200	0.3	0.3	0.3	0.3	0.3
785-801	800:5	C200	0.3	0.3	0.3	0.3	0.3
785-102	1000:5	C200	0.3	0.3	0.3	0.3	0.3
785-122	1200:5	C400	0.3	0.3	0.3	0.3	0.3
785-152	1500:5	C400	0.3	0.3	0.3	0.3	0.3
785-162	1600:5	C400	0.3	0.3	0.3	0.3	0.3
785-202	2000:5	C400	0.3	0.3	0.3	0.3	0.3
785-252	2500:5	C400	0.3	0.3	0.3	0.3	0.3
785-302	3000:5	C400	0.3	0.3	0.3	0.3	0.3
785-402	4000:5	C400	0.3	0.3	0.3	0.3	0.3



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Current Transformer

Model 786MR

APPLICATION:

Relaying and metering

FREQUENCY:

50-400 Hz.

INSULATION LEVEL:

600 Volts, 10 kV BIL, Full wave

CONTINUOUS THERMAL CURRENT RATING FACTOR:

2.0 at 30°C amb., 1.5 at 55°C amb

WINDOW DIAMETER:

6.5"

APPROXIMATE WEIGHT:

58lbs.

CONNECTIONS:

-Secondary terminals are brass studs No. 8-32 with one flat washer, lockwasher, and regular nut



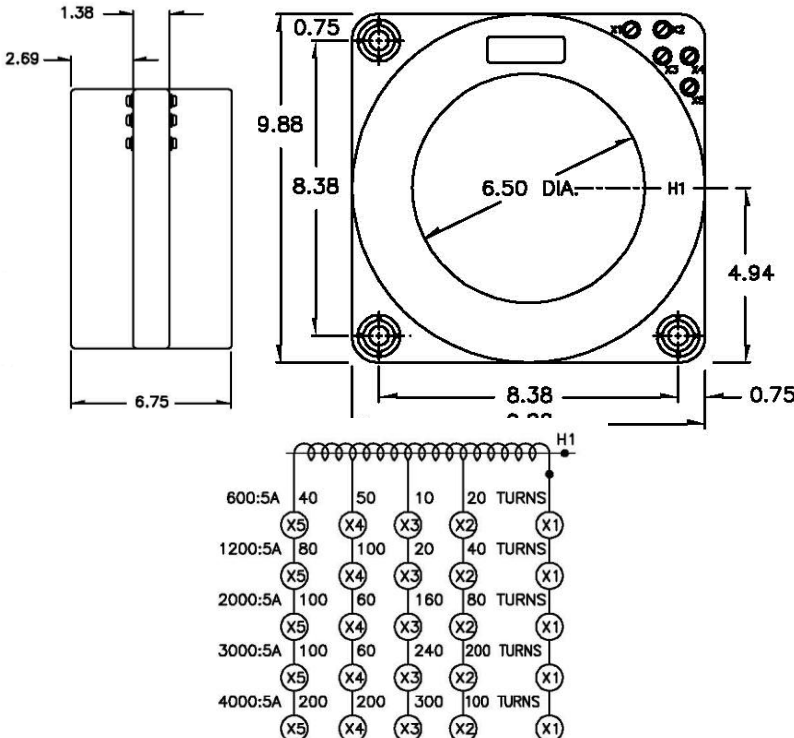
Model	786MR
Window Size	6.50
Width	9.88
Height	9.88
Depth	6.75

CERTIFICATIONS:

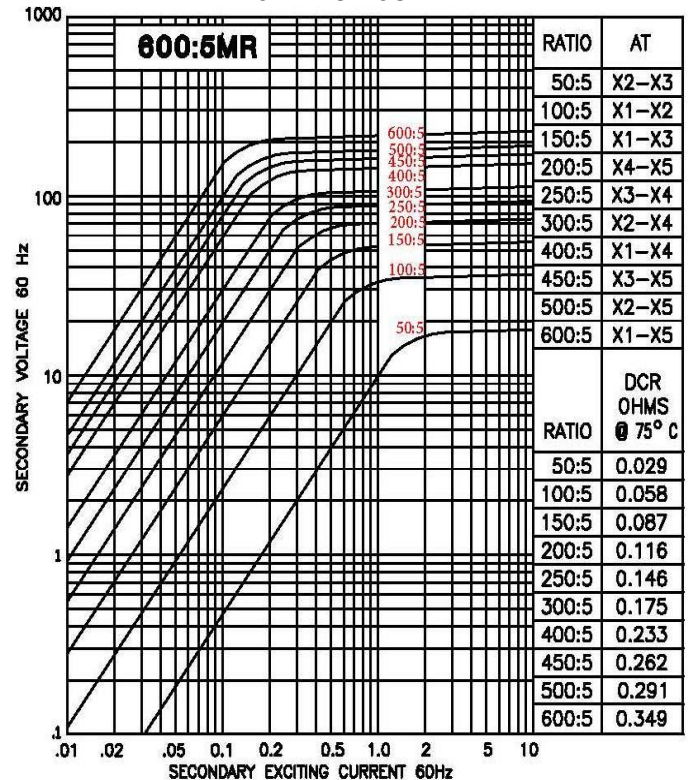


MODEL 786MR
Window Diameter 6.5"
Approximate weight: 58 lbs.

Catalog Number	Relay Class	ANSI Metering Class at 60Hz	Continuous Thermal	
			@ 30°C	@ 50°C
786-601MR	C200	0.6 B0.9	2.0	1.5
786-122MR	C400	0.3 B1.8	2.0	1.5
786-202MR	C400	0.3 B1.8	2.0	1.5
786-302MR	C400	0.3 B1.8	1.33	1.0
786-402MR	C400	0.3 B1.8	1.33	1.0



EXCITATION CURVE



MODEL 786 - 601MR - rating C200

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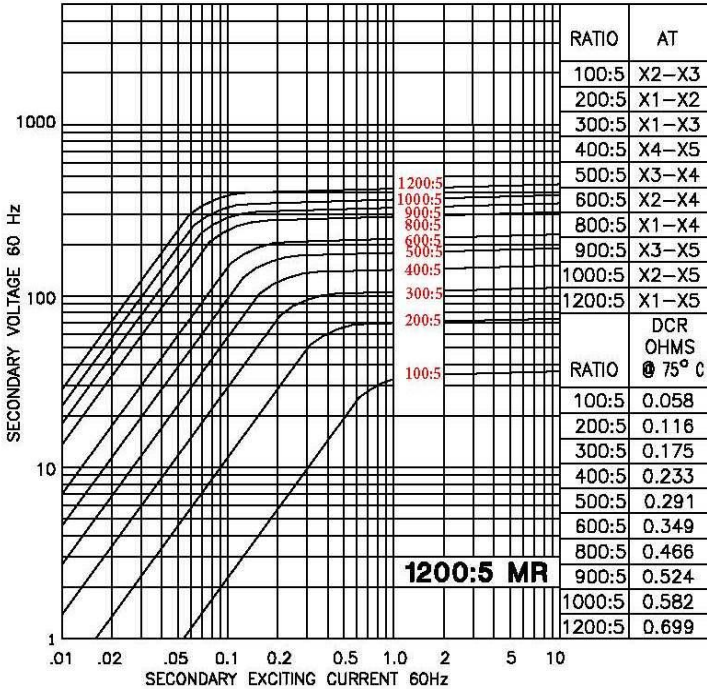
TTL Transformer Technologies Ltd.



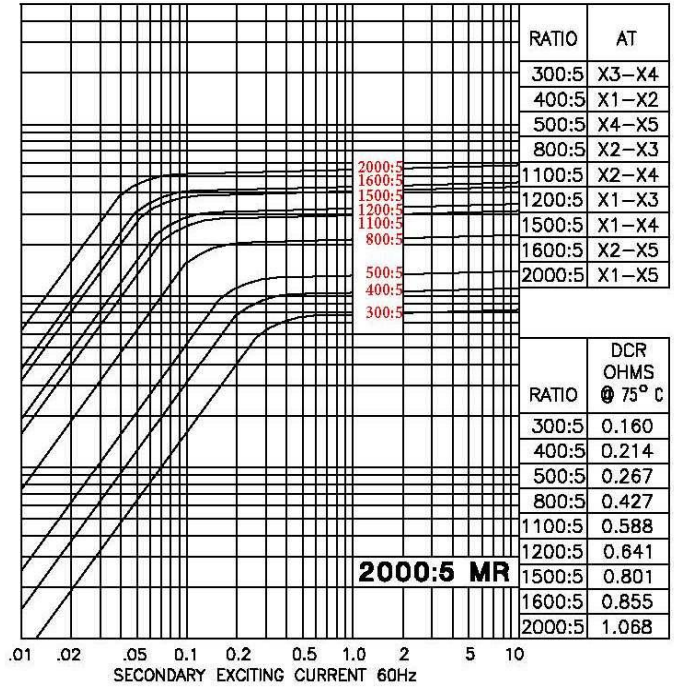
Current Transformer

Model 786MR

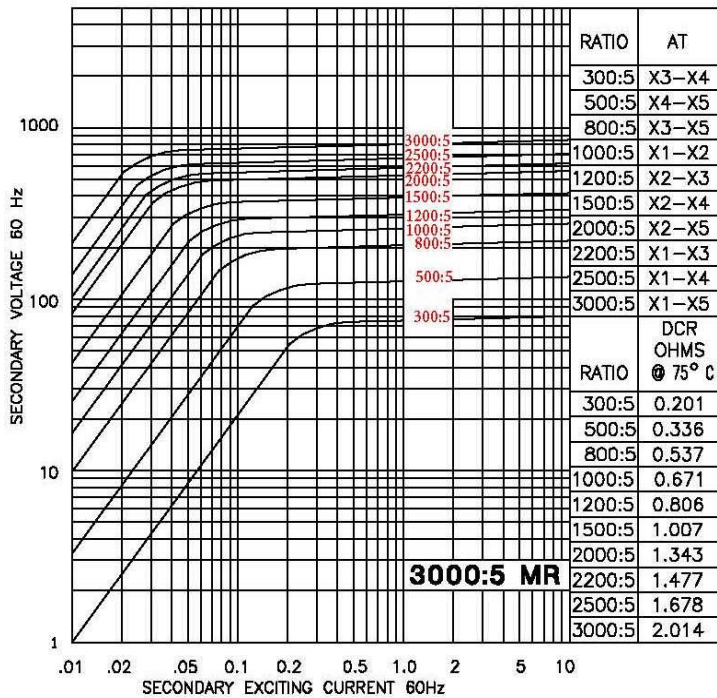
EXCITATION CURVE



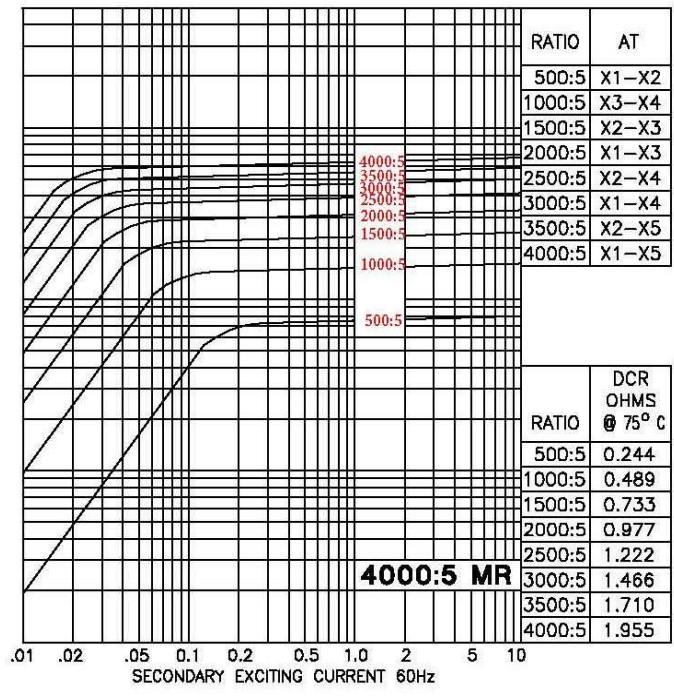
MODEL 786 - 122MR - rating C400



MODEL 786 - 202MR - rating C400



MODEL 786 - 302MR - C400



MODEL 786 - 402MR - rating C400

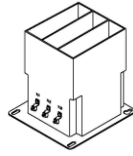
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VOLTAGE TRANSFORMERS

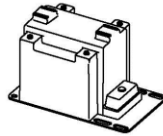
For Metering and Instrumentation

MV Voltage Transformers

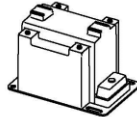
MODEL 3PT3-60



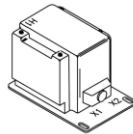
**MODEL PTG3-1-60
PTG3-2-60**



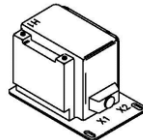
**MODEL PTW3-1-60
PTW3-2-60**



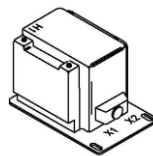
**MODEL PTG4-1-75
PTG4-2-75**



**MODEL PTG5-1-110
PTG5-2-110**



**MODEL PTW5-1-110
PTW5-2-110**

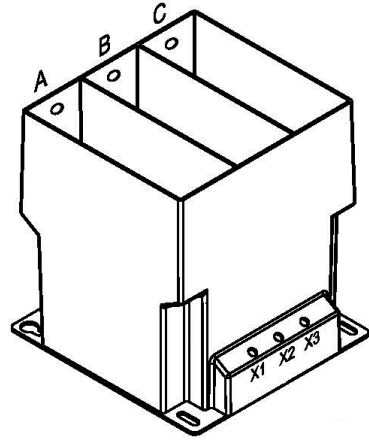




Indoor Voltage Transformer

Model 3PT3-60

CERTIFICATIONS:

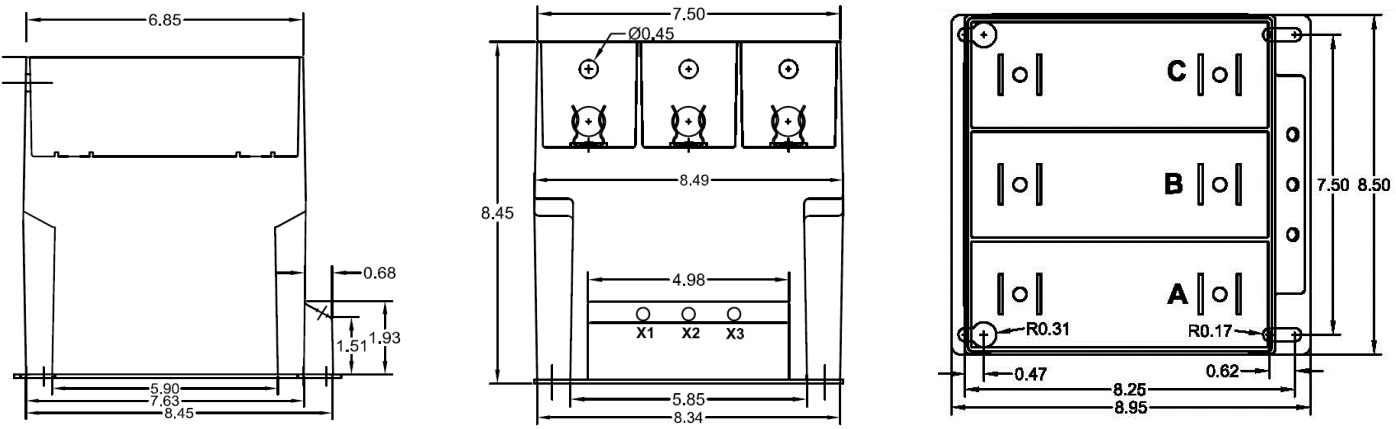


- ACCURACY CLASS:**
0.3 WX, 0.6M, 1.2Y at 100% rated voltage with 120V based ANSI burden
- FREQUENCY:**
60 Hz.
- THERMAL RATING:**
700 VA total, 350 VA per phase, at 30°C. amb.
450 VA total, 225 VA per phase, at 55°C. amb.
- STANDARD SECONDARY VOLTAGE:**
120 volts
- MAXIMUM SYSTEM VOLTAGE:**
5.6 kV, BIL 60kV full wave
- APPROXIMATE WEIGHT:**
38 lbs.

- Primary terminals are No. 10-32 brass screws with one flat washer and lockwasher.
- The core and coil assembly is encased in a plastic enclosure and vacuum encapsulated in polyurethane resin.
- The transformers are tested for partial discharge to Canadian Standards CAN 3-C13-M83. This test can also be carried out to IEC requirements if requested.
- Recommended Spacing is for guidance only. The user needs to set appropriate values to assure performance for: high potential test; impulse test; high humidity; partial discharge; high altitude.

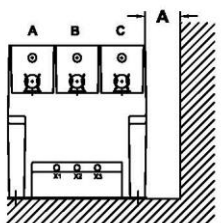
CATALOG NUMBER	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	★FREQUENCY Hz	THERMAL RATING	SUGGESTED FUSE RATING
3PT3-60-841-FFF	840	7:1	120	50 or 60	0.7 kVA	1.0 E
3PT3-60-242-FFF	2400	20:1	120	50 or 60	0.7 kVA	1.0 E
3PT3-60-322-FFF	3300	30:1	110	50 or 60	0.7 kVA	1.0 E
3PT3-60-422-FFF	4200	35:1	120	50 or 60	0.7 kVA	1.0 E
3PT3-60-482-FFF	4800	40:1	120	50 or 60	0.7 kVA	1.0 E
3PT3-60-552-FFF	5500	50:1	110	50 or 60	0.7 kVA	0.5 E
3PT3-60-602-FFF	6000	50:1	120	50 or 60	0.7 kVA	0.5 E
3PT3-60-662-FFF	6600	60:1	110	50 or 60	0.7 kVA	0.5 E
3PT3-60-722-FFF	7200	60:1	120	50 or 60	0.7 kVA	0.5 E

★Must specify 50 or 60 Hz

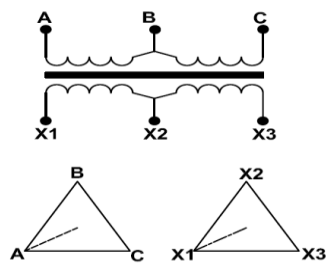


RECOMMENDED SPACING

A - CASE TO GROUND = 1.5" MIN



CONNECTION DIAGRAM



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Indoor Voltage Transformer

**Models PTG3-1-60
PTG3-2-60**

CERTIFICATIONS:



ACCURACY CLASS:

0.3 WXY, 1.2Z at 100% rated voltage with 120V based ANSI burden; 0.3 WX, 0.6 M, 1.2 Y at 58% rated voltage with 69.3V based ANSI burden

FREQUENCY:

60 Hz.

MAXIMUM SYSTEM VOLTAGE:

5.6kV, BIL 60kV full wave

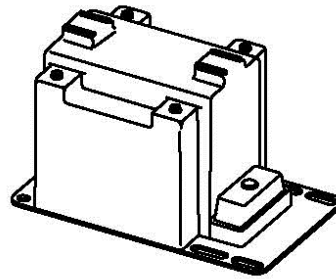
THERMAL RATING:

750 VA at 30°C. amb.

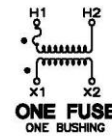
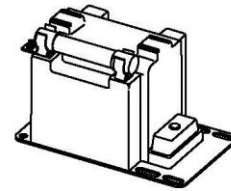
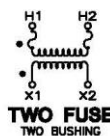
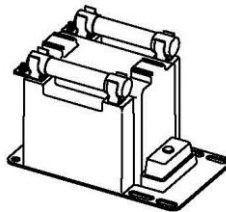
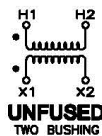
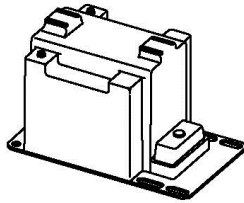
500 VA at 55°C. amb.

APPROXIMATE WEIGHT:

34 lbs.. unfused



- Primary terminals that are unfused are ¼ - 20 brass screws with one flat washer and lockwasher.
- Primary terminals that are fused are ¼ - 20 brass screws with one flat washer, lockwasher, and two nuts.
- Secondary terminals are No. 10-32 brass screws with one flat washer and lockwasher.
- The core and coil assembly is encased in a plastic enclosure and vacuum encapsulated in polyurethane resin.
- Thermal burden rating is for 120 volt secondaries
- Plated steel mounting base.
- Fuses have 1" Dia Caps and 5" clip centers.
- Switchgear style is similar to fused style. No fuse or fuse clip is provided, but inserts for fuse clips are supplied.



GROUP	ONE BUSHING (b)			RFR FR (c)	CATALOG NUMBERS		
					FUSES	FUSE CLIPS ONLY (d)	SWITCHGEAR STYLE
4A	2400	20:1	120	230	PTG3-1-60-242F	PTG3-1-60-242CSorCL	PTG3-1-60-242S
4B	4200	35:1	120	230	PTG3-1-60-422F	PTG3-1-60-422CSorCL	PTG3-1-60-422S
4B	4800	40:1	120	230	PTG3-1-60-482F	PTG3-1-60-482CSorCL	PTG3-1-60-482S

GROUP	TWO BUSHING (a)				CATALOG NUMBERS		
	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	UNFUSED	FUSES	FUSE CLIPS ONLY (d)	SWITCHGEAR STYLE
1	2400	20:1	120	PTG3-2-60-242	PTG3-2-60-242FF	PTG3-2-60-242CCSorCL	PTG3-2-60-242SS
2	3300	30:1	110-50Hz	PTG3-2-60-332	PTG3-2-60-332FF	PTG3-2-60-332CCSorCL	PTG3-2-60-332SS
2	4200	35:1	120	PTG3-2-60-422	PTG3-2-60-422FF	PTG3-2-60-422CCSorCL	PTG3-2-60-422SS
2	4800	40:1	120	PTG3-2-60-482	PTG3-2-60-482FF	PTG3-2-60-482CCSorCL	PTG3-2-60-482SS

(a) Two fuse transformers should not be used for Y connections. It is preferred practice to connect one lead from each voltage transformer directly to the neutral terminal using a fuse in the line side of the primary only. By using this connection, a transformer can never be made "live" from the line side by reason of a blown fuse in the neutral side. For continuous operation, the transformer primary voltage should not exceed 110% of rated value.

(b) Voltage transformers connected line-to-ground cannot be considered to be grounding transformers and must not be operated with the secondaries in closed delta because excessive currents may flow in the delta.

(c) Fuse clips noted as "CCS" or "CS" accept fuses with 1" Dia. Caps and 5" clip centers. Fuse clips noted as "CCL" or "CL" accept fuses with 1.63" Dia. Caps and 5.88" clip centers

NOTE: It is recommended the system line-to-line voltage not exceed the transformer maximum system voltage level.

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



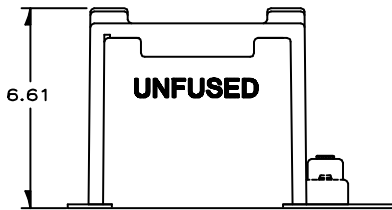
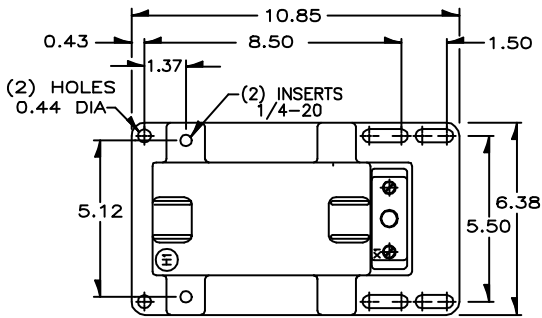
TTL Transformer Technologies Ltd.



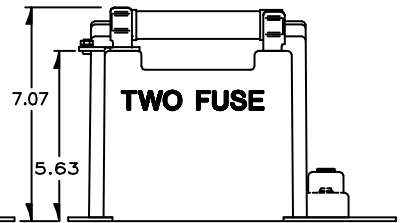
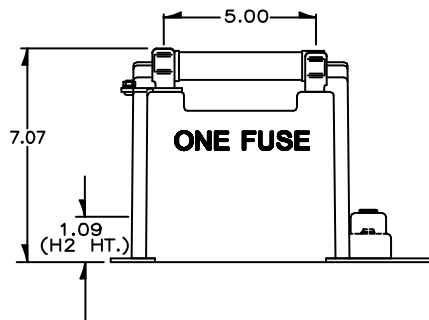
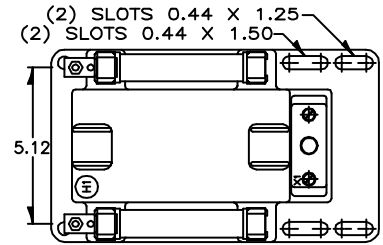
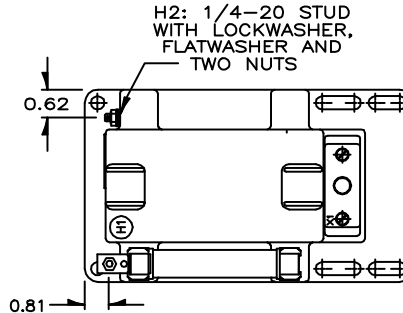
Indoor Voltage Transformer

**Models PTG3-1-60
PTG3-2-60**

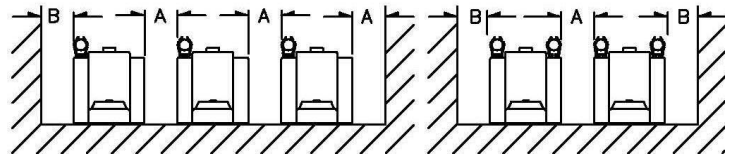
PTG3-1-60



PTG3-2-60



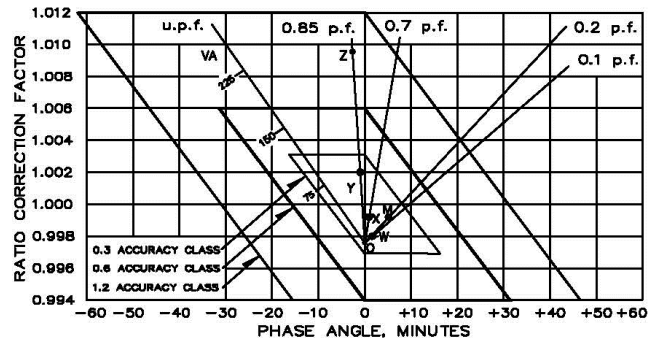
Recommended spacing is for guidance only. User needs to set appropriate values to assure performance for: high potential test; impulse test; high humidity; partial discharge, high altitude; and other considerations like configuration.



FUSE FOR MODEL PTG3 TRANSFORMER	RATING VOLTS	INTERRUPTING AMPERES (SYM)	SUGGESTED RATING * CONTINUOUS AMPERES	CAP DIA. INCHES	LENGTH INCHES	CLIP CENTERS INCHES
2400:120V	5.5kV	45,000	2.0E	1.0	5.63	5.00
3300:110V	5.5kV	45,000	2.0E	1.0	5.63	5.00
4200:120V	5.5kV	45,000	1.0E	1.0	5.63	5.00
4800:120V	5.5kV	45,000	1.0E	1.0	5.63	5.00

CIRCLE DIAGRAM

The circle diagram can be used to predict the performance of a transformer for various loads and power factors. A convenient scale of volt-amperes is shown on the unity power factor line (u.p.f.) and commences at the zero or no-load locus. To use the diagram, measure the known V.A. and scribe an arc about the "zero" locus of a length that contains the angle of the burden power factor. The point at which the arc terminates is the error locus in phase angle minutes and ratio correction factor.



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Indoor Voltage Transformer

**Models PTG4-1-75
PTG4-2-75**

ACCURACY CLASS:

0.3 WXYZ, 1.2ZZ at 100% rated voltage with 120V based ANSI burden.
0.3 WXMY, 1.2Z at 58% rated voltage with 69.3V based ANSI burden.

FREQUENCY:

60 Hz.

MAXIMUM SYSTEM VOLTAGE:

12 kV, BIL 75kV full wave

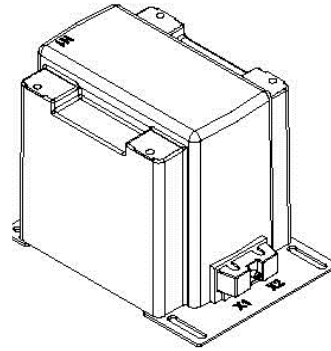
THERMAL RATING:

1000 va AT 30°C amb.

750 VA at 55°C. amb.

APPROXIMATE WEIGHT:

60 lbs., unfused

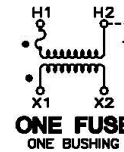
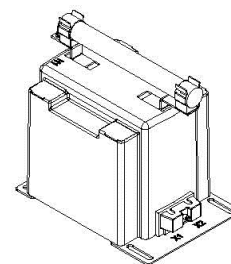
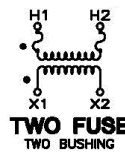
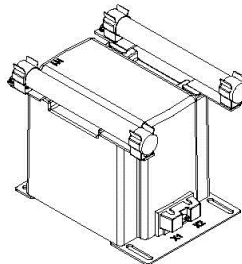
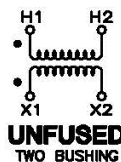
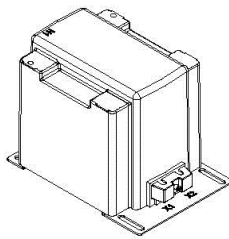


CERTIFICATIONS:



- Primary terminals that are unfused are 1/4-20 brass screws with one lockwasher and flat washer.
- Primary terminals that are fused are 1/4-20 brass screws with one flat washer, lockwasher and two nuts.
- Secondary terminals are No. 10-32 brass screws with one flat washer and lockwasher.
- The transformers are tested for partial discharge to Canadian Standards CAN 3-C13-M83. This test can also be carried out to IEC requirements i

- The core and coil assembly is vacuum encapsulated in polyurethane resin.
- Thermal burden rating is for 120 volt secondaries
- Plated steel mounting base.
- Fuses have 1.63" Dia Caps and 11.50" clip centers.
- Switchgear style is similar to fused style. No fuse or fuse clip is provided, but inserts for fuse clips are supplied.
- A test cord is provided with each unit.



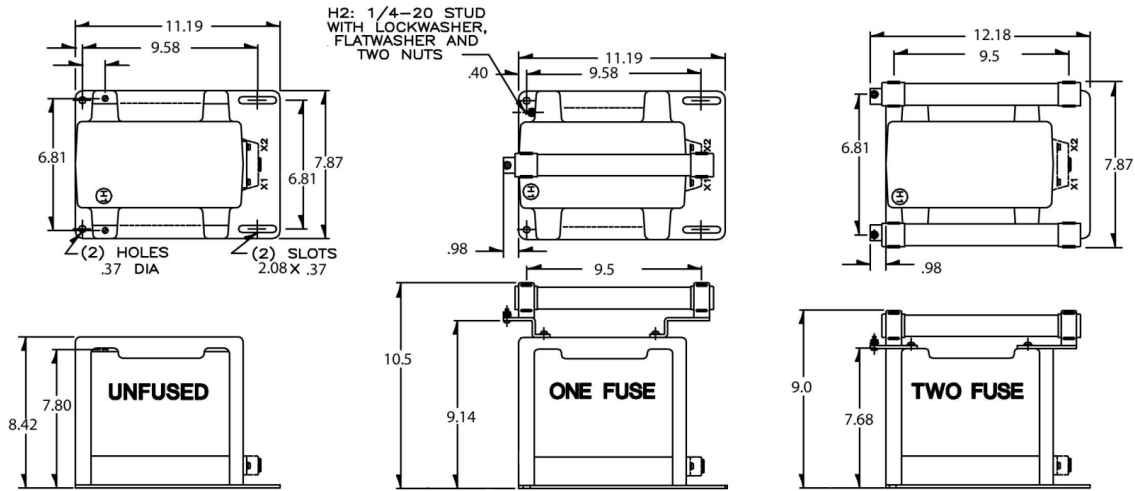
ONE BUSHING(b)					CATALOG NUMBERS		
GROUP	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	R FR (c)	FUSES	FUSE CLIPS ONLY	SWITCHGEAR STYLE
4A	4200	35:1	120	65	PTG4-1-75-422F	PTG4-1-75-422C	PTG4-1-75-422S
4A	4800	40:1	120	65	PTG4-1-75-482F	PTG4-1-75-482C	PTG4-1-75-482S
4B	6600	60:1	110-50Hz	65	PTG4-1-75-662F	PTG4-1-75-662C	PTG4-1-75-662S
4B	7200	60:1	120	65	PTG4-1-75-722F	PTG4-1-75-722C	PTG4-1-75-722S
4B	8400	70:1	120	65	PTG4-1-75-842F	PTG4-1-75-842C	PTG4-1-75-842S
4B	11000	100:1	110-50Hz	65	PTG4-1-75-113F	PTG4-1-75-113C	PTG4-1-75-113S
4B	12000	100:1	120	65	PTG4-1-75-123F	PTG4-1-75-123C	PTG4-1-75-123S

TWO BUSHING(a)					CATALOG		
GROUP	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	UNFUSED	FUSES	FUSE CLIPS ONLY	SWITCHGEAR STYLE
1	4200	35:1	120	PTG4-2-75-422	PTG4-2-75-422FF	PTG4-2-75-422CC	PTG4-2-75-422SS
1	4800	40:1	120	PTG4-2-75-482	PTG4-2-75-482FF	PTG4-2-75-482CC	PTG4-2-75-482SS
2	6600	60:1	110-50Hz	PTG4-2-75-662	PTG4-2-75-662FF	PTG4-2-75-662CC	PTG4-2-75-662SS
2	7200	60:1	120	PTG4-2-75-722	PTG4-2-75-722FF	PTG4-2-75-722CC	PTG4-2-75-722SS
2	8400	70:1	120	PTG4-2-75-842	PTG4-2-75-842FF	PTG4-2-75-842CC	PTG4-2-75-842SS
2	11000	100:1	110-50Hz	PTG4-2-75-113	PTG4-2-75-113FF	PTG4-2-75-113CC	PTG4-2-75-113SS
2	12000	100:1	120	PTG4-2-75-123	PTG4-2-75-123FF	PTG4-2-75-123CC	PTG4-2-75-123SS

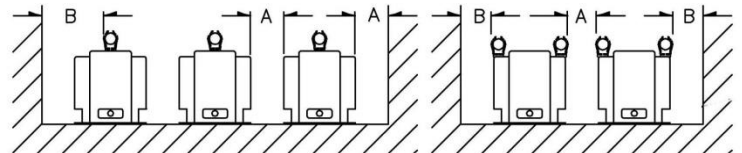
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

- (a) Two fuse transformers should not be used for Y connections. It is preferred practice to connect one lead from each voltage transformer directly to the neutral terminal using a fuse in the line side of the primary only. By using this connection, a transformer can never be made "live" from the line side by reason of a blown fuse in the neutral side. For continuous operation, the transformer primary voltage should not exceed 110% of rated value.
- (b) Voltage transformers connected line-to-ground cannot be considered to be grounding transformers and must not be operated with the secondaries in closed delta because excessive currents may flow in the delta.
- (c) Possibility of ferroresonance should be considered.

PTG4-1-75 PTG4-2-75

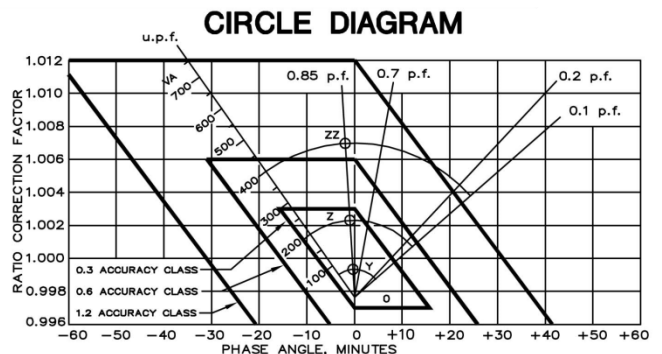


Recommended spacing is for guidance only. User needs to set appropriate values to assure performance for: high potential test; impulse test; high humidity; partial discharge, high altitude; and other considerations like configuration.



FUSE FOR MODEL PTG4 TRANSFORMER	RATING VOLTS	INTERRUPTING AMPERES (SYM)	SUGGESTED RATING * CONTINUOUS AMPERES	CAP DIA. INCHES	LENGTH INCHES	CLIP CENTERS INCHES
4200:120V	12 kV	50,000	2.0E	0.812	10	9.5
4800:120V	12 kV	50,000	2.0E	0.812	10	9.5
6600:110V	12 kV	50,000	1.0E	0.812	10	9.5
7200:120V	12 kV	50,000	1.0E	0.812	10	9.5
8400:120V	12 kV	50,000	1.0E	0.812	10	9.5
11000:110V	12 kV	50,000	0.5E	0.812	10	9.5
12000:120V	12 kV	50,000	0.5E	0.812	10	9.5

The circle diagram can be used to predict the performance of a transformer for various loads and power factors. A convenient scale of volt-amperes is shown on the unity power factor line (u.p.f.) and commences at the zero or no-load locus. To use the diagram, measure the known V.A. and scribe an arc about the "zero" locus of a length that contains the angle of the burden power factor. The point at which the arc terminates is the error locus in phase angle minutes and ratio correction factor.





Indoor Voltage Transformer

**Models PTG5-1-110
PTG5-2-110**

CERTIFICATIONS:



ACCURACY CLASS:

0.3 WXYZ, 1.2ZZ at 100% rated voltage with 120V based ANSI burden; 0.3 WXY, 1.2Z at 58% rated voltage with 69.3V based ANSI burden

FREQUENCY:

60 Hz.

MAXIMUM SYSTEM VOLTAGE:

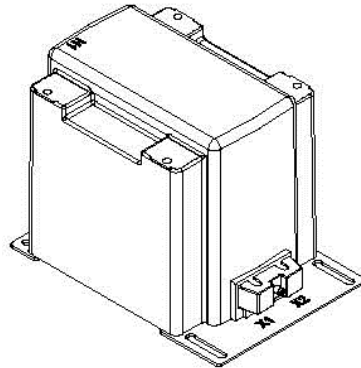
15.5kV, BIL 110kV full wave

THERMAL RATING:

1500 VA at 30°C. amb.
1000 VA at 55°C. amb.

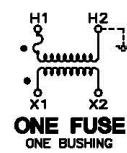
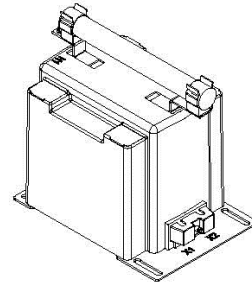
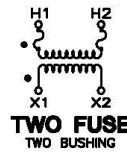
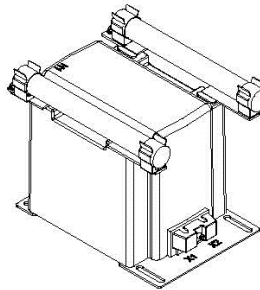
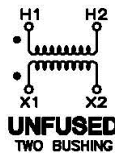
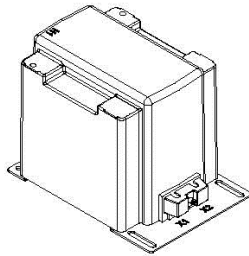
APPROXIMATE WEIGHT:

85 lbs., unfused



- Primary terminals that are unfused are ¼ - 20 brass screws with one flat washer and lockwasher, unless otherwise specified.
- Primary terminals that are fused are ¼ - 20 brass screws with one flat washer, lockwasher and two nuts.
- Secondary terminals are No. 10-32 brass screws with one flat washer and lockwasher.
- The core and coil assembly is vacuum encapsulated in polyurethane resin.

- Thermal burden rating is for 120 volt secondaries
- Plated steel mounting base.
- Fuses have 1.63" Dia Caps and 11.50" clip centers.
- Switchgear style is similar to fused style. No fuse or fuse clip is provided, but inserts for fuse clips are supplied.
- A test cord is provided with each unit.



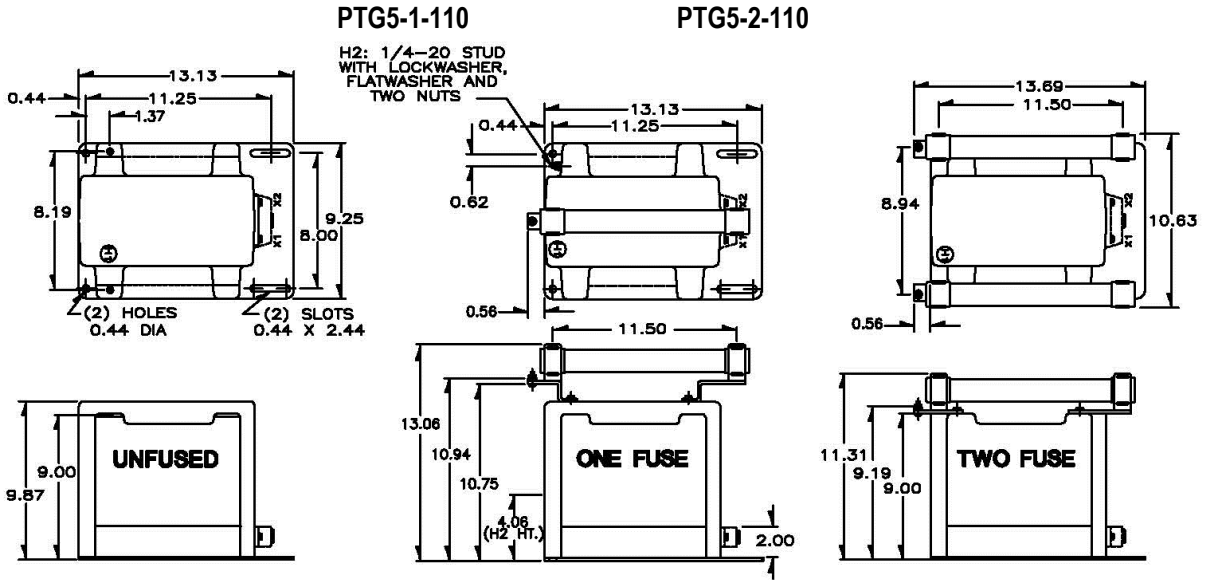
GROUP	ONE BUSHING (b)			RFR FR (c)	CATALOG NUMBERS		
					FUSES	FUSE CLIPS ONLY	SWITCHGEAR STYLE
4A	7200	60:1	120	65	PTG5-1-110-722F	PTG5-1-110-722C	PTG5-1-110-722S
4A	8400	70:1	120	65	PTG5-1-110-842F	PTG5-1-110-842C	PTG5-1-110-842S
4B	11000	100:1	110-50Hz	65	PTG5-1-110-113F	PTG5-1-110-113C	PTG5-1-110-113S
4B	12000	100:1	120	65	PTG5-1-110-123F	PTG5-1-110-123C	PTG5-1-110-123S
4B	13200	110:1	120	65	PTG5-1-110-1322F	PTG5-1-110-1322C	PTG5-1-110-1322S
4B	14400	120:1	120	65	PTG5-1-110-1442F	PTG5-1-110-1442C	PTG5-1-110-1442S

GROUP	TWO BUSHING (a)				CATALOG NUMBERS			
	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	UNFUSED	FUSES	FUSE CLIPS ONLY	SWITCHGEAR STYLE	
1	7200	60:1	120	PTG5-2-110-722	PTG5-2-110-722FF	PTG5-2-110-722CC	PTG5-2-110-722SS	
1	8400	70:1	120	PTG5-2-110-842	PTG5-2-110-842FF	PTG5-2-110-842CC	PTG5-2-110-842SS	
2	11000	100:1	110-50Hz	PTG5-2-110-113	PTG5-2-110-113FF	PTG5-2-110-113CC	PTG5-2-110-113SS	
2	12000	100:1	120	PTG5-2-110-123	PTG5-2-110-123FF	PTG5-2-110-123CC	PTG5-2-110-123SS	
2	13200	110:1	120	PTG5-2-110-1322	PTG5-2-110-1322FF	PTG5-2-110-1322CC	PTG5-2-110-1322SS	
2	14400	120:1	120	PTG5-2-110-1442	PTG5-2-110-1442FF	PTG5-2-110-1442CC	PTG5-2-110-1442SS	

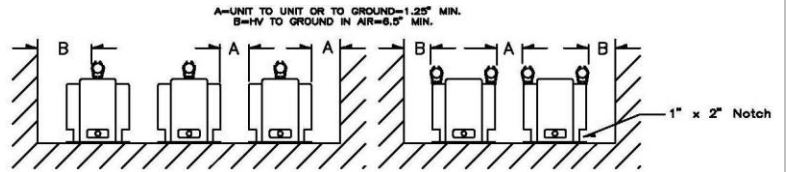
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



- (a) Two fuse transformers should not be used for Y connections. It is preferred practice to connect one lead from each voltage transformer directly to the neutral terminal using a fuse in the line side of the primary only. By using this connection, a transformer can never be made "live" from the line side by reason of a blown fuse in the neutral side. For continuous operation, the transformer primary voltage should not exceed 100% of rated value.
- (b) Voltage transformers connected line-to-ground cannot be considered to be grounding transformers and must not be operated with the secondaries in closed delta because excessive currents may flow in the delta.
- (c) Possibility of ferroresonance should be considered.

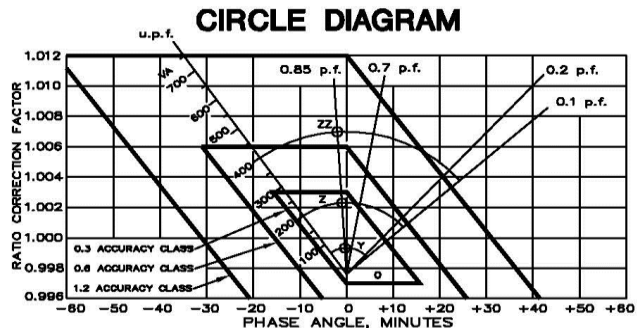


Recommended spacing is for guidance only. User needs to set appropriate values to assure performance for: high potential test; impulse test; high humidity; partial discharge, high altitude; and other considerations like configuration.



FUSE FOR MODEL PTG5 TRANSFORMER	RATING VOLTS	INTERRUPTING AMPERES (SYM)	SUGGESTED RATING * CONTINUOUS AMPERES	CAP DIA. INCHES	LENGTH INCHES	CLIP CENTERS INCHES
7200:120V	15.5kV	80,000	1.0E	1.63	13	11.50
8400:120V	15.5kV	80,000	1.0E	1.63	13	11.50
11000:110V	15.5kV	80,000	0.5E	1.63	13	11.50
12000:120V	15.5kV	80,000	0.5E	1.63	13	11.50
13200:120V	15.5kV	80,000	0.5E	1.63	13	11.50
14400:120V	15.5kV	80,000	0.5E	1.63	13	11.50

The circle diagram can be used to predict the performance of a transformer for various loads and power factors. A convenient scale of volt-amperes is shown on the unity power factor line (u.p.f.) and commences at the zero or no-load locus. To use the diagram, measure the known V.A. and scribe an arc about the "zero" locus of a length that contains the angle of the burden power factor. The point at which the arc terminates is the error locus in phase angle minutes and ratio correction factor.





Indoor Voltage Transformer

**Models PTW3-1-60
PTW3-2-60**

CERTIFICATIONS:



ACCURACY CLASS:

0.3 WXMV, 1.2Z at 100% rated voltage with 120V based ANSI burden; 0.6 WX, 1.2 MY, 1.2 Y at 58% rated voltage with 69.3V based ANSI burden

FREQUENCY:

60 Hz.

MAXIMUM SYSTEM VOLTAGE:

5.6kV, BIL 60kV full wave

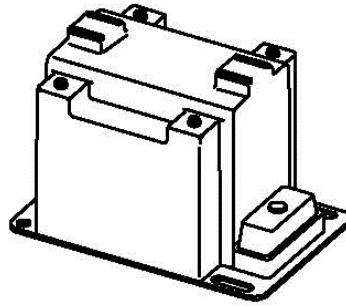
THERMAL RATING:

750 VA at 30°C. amb.

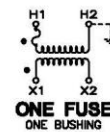
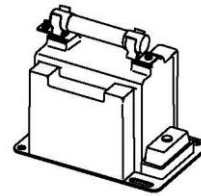
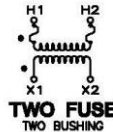
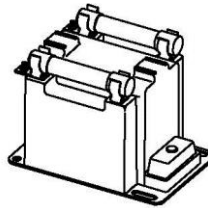
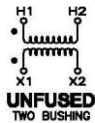
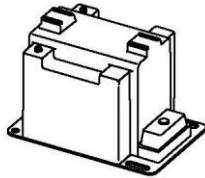
500 VA at 55°C. amb.

APPROXIMATE WEIGHT:

34 lbs.. unfused



- Primary terminals that are unfused are ¼ - 20 brass screws with one flat washer and lockwasher.
- Primary terminals that are fused are ¼ - 20 brass screws with one flat washer, lockwasher and two nuts.
- Secondary terminals are No. 10-32 brass screws with one flat washer and lockwasher.
- The core and coil assembly is encased in a plastic enclosure and vacuum encapsulated in polyurethane resin.
- Thermal burden rating is for 120 volt secondaries
- Plated steel mounting base.
- Fuses have 1" Dia Caps and 5" clip centers.
- Switchgear style is similar to fused style. No fuse or fuse clip is provided, but inserts for fuse clips are supplied.



GROUP	ONE BUSHING (b)			RFR FR (c)	CATALOG NUMBERS		
					FUSES	FUSE CLIPS ONLY (d)	SWITCHGEAR STYLE
4A	2400	20:1	120	230	PTW3-1-60-242F	PTW3-1-60-242CSorCL	PTW3-1-60-242S
4B	4200	35:1	120	230	PTW3-1-60-422F	PTW3-1-60-422CSorCL	PTW3-1-60-422S
4B	4800	40:1	120	230	PTW3-1-60-482F	PTW3-1-60-482CSorCL	PTW3-1-60-482S

GROUP	TWO BUSHING (a)				CATALOG NUMBERS		
	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	UNFUSED	FUSES	FUSE CLIPS ONLY (d)	SWITCHGEAR STYLE
1	2400	20:1	120	PTW3-2-60-242	PTW3-2-60-242FF	PTW3-2-60-242CCSorCCL	PTW3-2-60-242SS
2	3300	30:1	110-50Hz	PTW3-2-60-332	PTW3-2-60-332FF	PTW3-2-60-332CCSorCCL	PTW3-2-60-332SS
2	4200	35:1	120	PTW3-2-60-422	PTW3-2-60-422FF	PTW3-2-60-422CCSorCCL	PTW3-2-60-422SS
2	4800	40:1	120	PTW3-2-60-482	PTW3-2-60-482FF	PTW3-2-60-482CCSorCCL	PTW3-2-60-482SS

(a) Two fuse transformers should not be used for Y connections. It is preferred practice to connect one lead from each voltage transformer directly to the neutral terminal using a fuse in the line side of the primary only. By using this connection, a transformer can never be made "live" from the line side by reason of a blown fuse in the neutral side. For continuous operation, the transformer primary voltage should not exceed 110% of rated value.

(b) Voltage transformers connected line-to-ground cannot be considered to be grounding transformers and must not be operated with the secondaries in closed delta because excessive currents may flow in the delta.

(c) Fuse clips noted as "CCS" or "CS" accept fuses with 1" Dia. Caps and 5" clip centers. Fuse clips noted as "CCL" or "CL" accept fuses with 1.63" Dia. Caps and 5.88" clip centers

NOTE: It is recommended the system line-to-line voltage not exceed the transformer maximum system voltage level.

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



TTL Transformer Technologies Ltd.

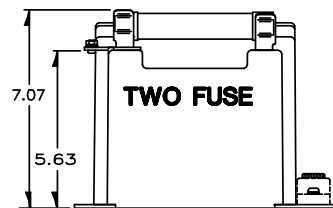
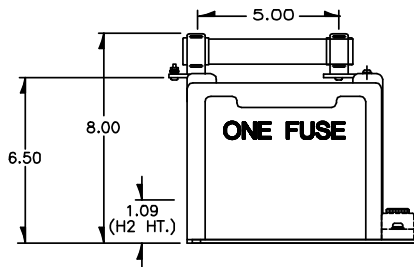
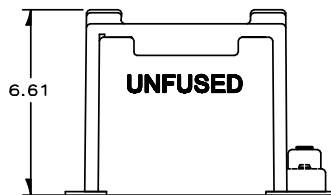
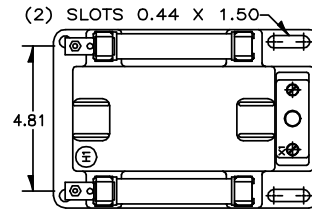
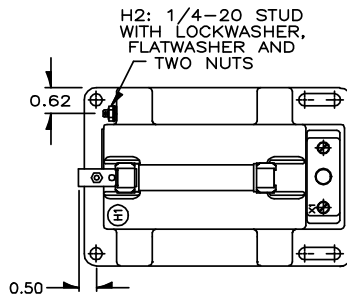
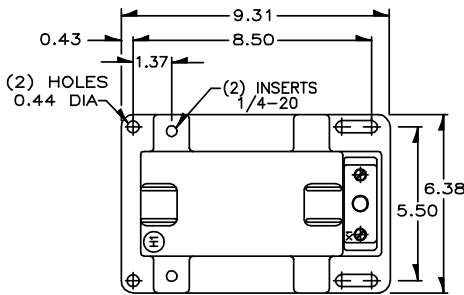


Indoor Voltage Transformer

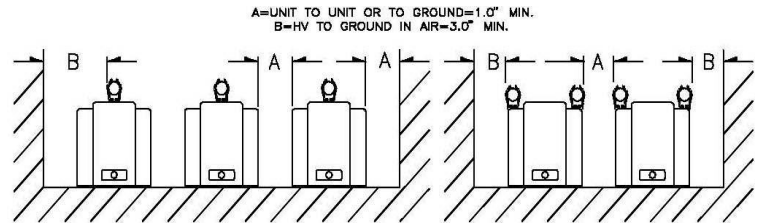
**Models PTW3-1-60
PTW3-2-60**

PTW3-2-60

PTW3-1-60



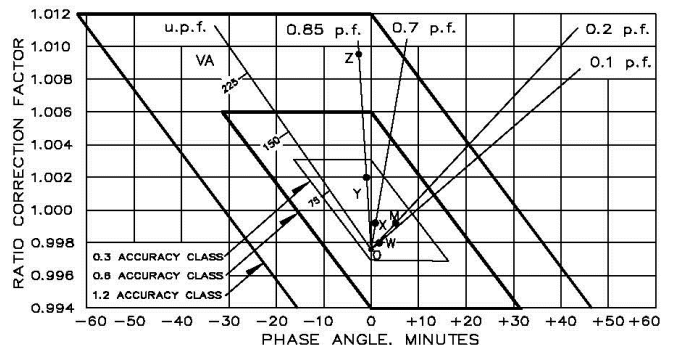
Recommended spacing is for guidance only. User needs to set appropriate values to assure performance for: high potential test; impulse test; high humidity; partial discharge, high altitude; and other considerations like configuration.



FUSE FOR MODEL PTW3 TRANSFORMER	RATING VOLTS	INTERRUPTING AMPERES (SYM)	SUGGESTED RATING * CONTINUOUS AMPERES	CAP DIA. INCHES	LENGTH INCHES	CLIP CENTERS INCHES
2400:120V	5.5kV	45,000	2.0E	1.0	5.63	5.00
3300:110V	5.5kV	45,000	2.0E	1.0	5.63	5.00
4200:120V	5.5kV	45,000	1.0E	1.0	5.63	5.00
4800:120V	5.5kV	45,000	1.0E	1.0	5.63	5.00

The circle diagram can be used to predict the performance of a transformer for various loads and power factors. A convenient scale of volt-amperes is shown on the unity power factor line (u.p.f.) and commences at the zero or no-load locus. To use the diagram, measure the known V.A. and scribe an arc about the "zero" locus of a length that contains the angle of the burden power factor. The point at which the arc terminates is the error locus in phase angle minutes and ratio correction factor.

CIRCLE DIAGRAM



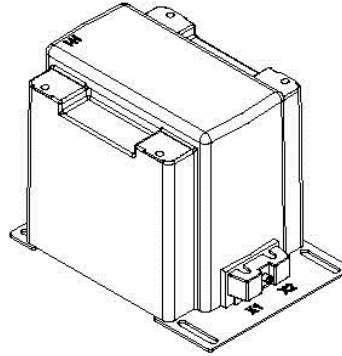
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Indoor Voltage Transformer

**Models PTW5-1-110
PTW5-2-110**

CERTIFICATIONS:



ACCURACY CLASS:

0.3 W_XM_Y, 1.2Z at 100% rated voltage with 120V based ANSI burden; 0.6 W_X, 1.2 M_Y, 1.2 Y at 58% rated voltage with 69.3V based ANSI burden

FREQUENCY:

60 Hz.

MAXIMUM SYSTEM VOLTAGE:

5.6kV, BIL 60Kv, Full wave

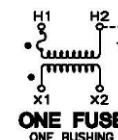
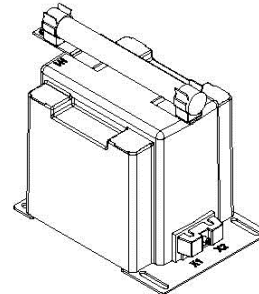
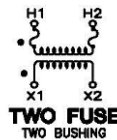
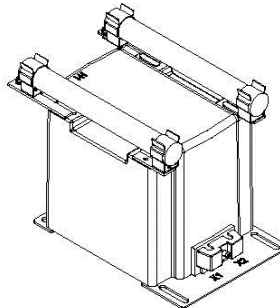
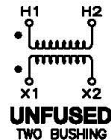
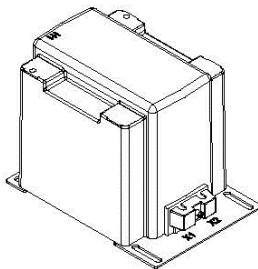
THERMAL RATING:

750 VA at 30°C. amb.
500 VA at 55°C. amb.

APPROXIMATE WEIGHT:

34 lbs., unfused

- Primary terminals that are unfused are ¼ - 20 brass screws with one flat washer and lockwasher.
- Primary terminals that are fused are ¼ - 20 brass screws with one flat washer, lockwasher and two nuts.
- Secondary terminals are No. 10-32 brass screws with one flat washer and lockwasher.
- The core and coil assembly is encased in a plastic enclosure and vacuum encapsulated in polyurethane resin.
- Thermal burden rating is for 120 volt secondaries
- Plated steel mounting base.
- Fuses have 1" Dia Caps and 5" clip centers.
- Switchgear style is similar to fused style. No fuse or fuse clip is provided, but inserts for fuse clips are supplied.



GROUP	SINGLE BUSHING (b)			RFR FR (c)	CATALOG NUMBERS		
	FUSES	FUSE CLIPS ONLY	SWITCHGEAR STYLE				
4A	7200	60:1	120	65	PTW5-1-110-722F	PTW5-1-110-722C	PTW5-1-110-722S
4A	8400	70:1	120	65	PTW5-1-110-842F	PTW5-1-110-842C	PTW5-1-110-842S
4B	11000	100:1	110-50Hz	65	PTW5-1-110-113F	PTW5-1-110-113C	PTW5-1-110-113S
4B	12000	100:1	120	65	PTW5-1-110-123F	PTW5-1-110-123C	PTW5-1-110-123S
4B	13200	110:1	120	65	PTW5-1-110-1322F	PTW5-1-110-1322C	PTW5-1-110-1322S
4B	14400	120:1	120	65	PTW5-1-110-1442F	PTW5-1-110-1442C	PTW5-1-110-1442S

GROUP	TWO BUSHING (a)			CATALOG NUMBERS			
	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	UNFUSED	FUSES	FUSE CLIPS ONLY	SWITCHGEAR STYLE
1	7200	60:1	120	PTW5-2-110-722	PTW5-2-110-722FF	PTW5-2-110-722CC	PTW5-2-110-722SS
1	8400	70:1	120	PTW5-2-110-842	PTW5-2-110-842FF	PTW5-2-110-842CC	PTW5-2-110-842SS
2	11000	100:1	110-50Hz	PTW5-2-110-113	PTW5-2-110-113FF	PTW5-2-110-113CC	PTW5-2-110-113SS
2	12000	100:1	120	PTW5-2-110-123	PTW5-2-110-123FF	PTW5-2-110-123CC	PTW5-2-110-123SS
2	13200	110:1	120	PTW5-2-110-1322	PTW5-2-110-1322FF	PTW5-2-110-1322CC	PTW5-2-110-1322SS
2	14400	120:1	120	PTW5-2-110-1442	PTW5-2-110-1442FF	PTW5-2-110-1442CC	PTW5-2-110-SS1442

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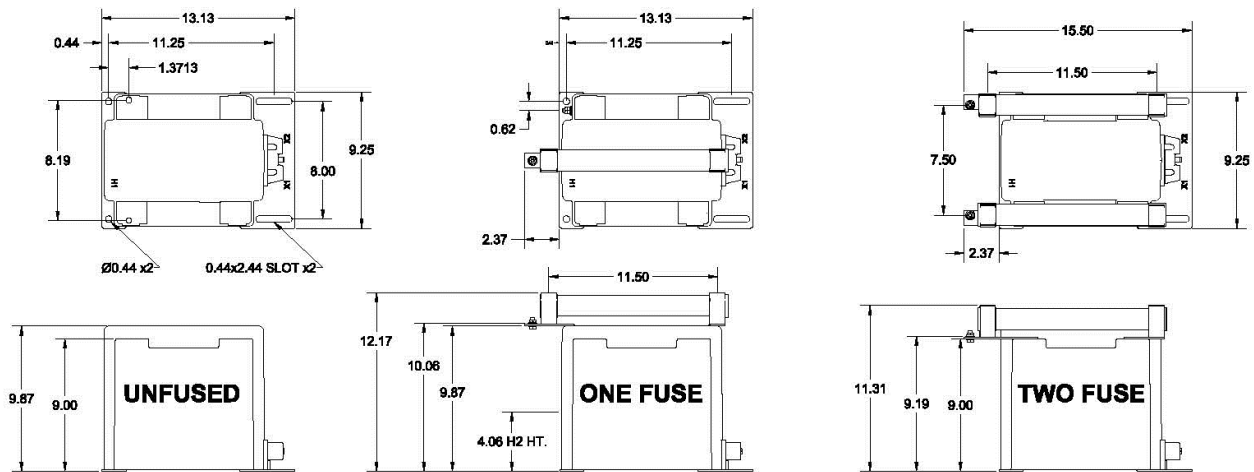


Indoor Voltage Transformer

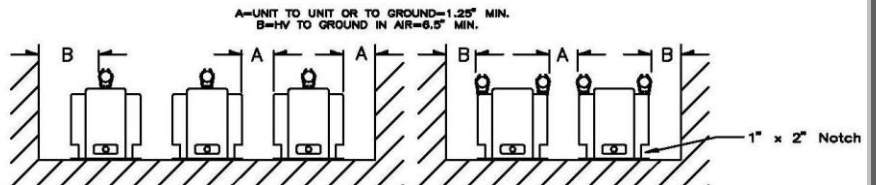
**Models PTW5-1-110
PTW5-2-110**

PTW5-1-110

PTW5-2-110



Recommended spacing is for guidance only. User needs to set appropriate values to assure performance for: high potential test; impulse test; high humidity; partial discharge, high altitude; and other considerations like configuration.

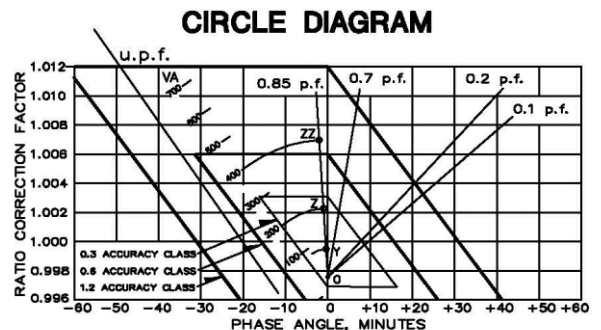


FUSE FOR MODEL PTW5 TRANSFORMER	RATING VOLTS	INTERRUPTING AMPERES (SYM)	SUGGESTED RATING * CONTINUOUS AMPERES	CAP DIA. INCHES	LENGTH INCHES	CLIP CENTERS INCHES
7200:120V	15.5kV	80,000	1.0E	1.63	13	11.50
8400:120V	15.5kV	80,000	1.0E	1.63	13	11.50
11000:110V	15.5kV	80,000	0.5E	1.63	13	11.50
12000:120V	15.5kV	80,000	0.5E	1.63	13	11.50
13200:120V	15.5kV	80,000	0.5E	1.63	13	11.50
14400:120V	15.5kV	80,000	0.5E	1.63	13	11.50

- (a) Two fuse transformers should not be used for Y connections. It is preferred practice to connect one lead from each voltage transformer directly to the neutral terminal, using a fuse in the line side of the primary only. By using this connection a transformer can never be made "live" from the line side by reason of a blown fuse in the neutral side. For continuous operation, the transformer primary voltage should not exceed 110% of rated value.
- (b) Voltage transformers connected line-to-ground cannot be considered to be grounding transformers and must not be operated with the secondaries in closed delta because excessive currents may flow in the delta.
- (c) Possibility of ferroresonance should be considered.

NOTE: It is recommended the system line-to-line voltage not exceed the transformer maximum system voltage level.

The circle diagram can be used to predict the performance of a transformer for various loads and power factors. A convenient scale of volt-amperes is shown on the unity power factor line (u.p.f.) and commences at the zero or no-load locus. To use the diagram, measure the known V.A. and scribe an arc about the "zero" locus of a length that contains the angle of the burden power factor. The point at which the arc terminates is the error locus in phase angle minutes and ratio correction factor.

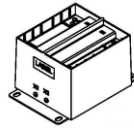


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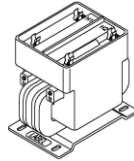
VOLTAGE TRANSFORMERS

For Metering and Instrumentation

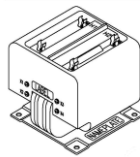
MV Control Power Transformers



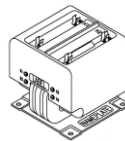
MODEL CPT3-60-0.5



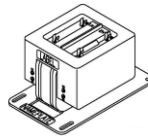
MODEL CPT3-60-1.0



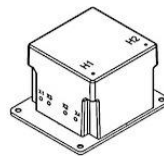
MODEL CPT3-60-1.5



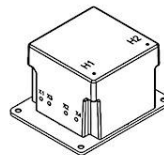
MODEL CPT3-60-2



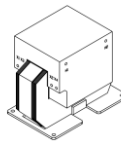
MODEL CPT3-60-3



MODEL CPT3-60-05-6



MODEL CPT3-60-05-5

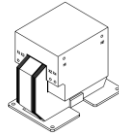


MODEL CPT3-60-075-6

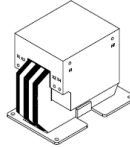
VOLTAGE TRANSFORMERS

For Metering and Instrumentation

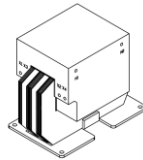
MV Control Power Transformers



MODEL CPT3-60-075-5



MODEL CPT3-60-2-6



MODEL CPT3-60-2-5



Control Power Transformer

Model CPT3-60-0.5

APPLICATION:

To provide control power in distribution equipment and motor starters. May also be used for indicating and recording voltmeters.

FREQUENCY:

60 Hz.

ACCURACY:

+ 1% at 100 VA.

INSULATION LEVEL:

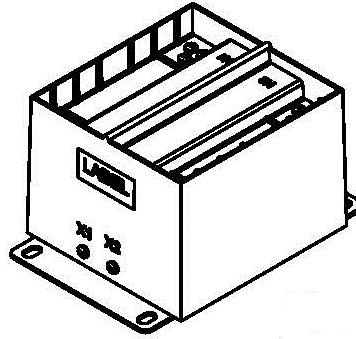
5 kV, 60 kV BIL. full wave

THERMAL RATING:

At 30°C. amb., see below

APPROXIMATE WEIGHT:

22 lbs.



CERTIFICATIONS:

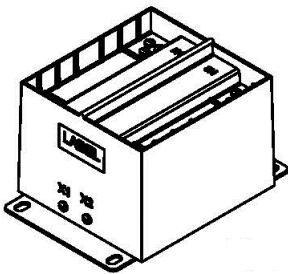


- Suggested fuse rating: See below, 50kA RMS Symmetrical. Fuse diameter is 0.81 inches. Higher fuse ratings available at users option.
- Primary and secondary terminals are brass screws No. 10-32 with on flat washer and lockwasher.
- The transformer winding is vacuum encapsulated in a polyurethane resin.
- Plated steel mounting base is removable. CPT can be mounted with base as shown, with base rotated 90 degrees, or without a base.
- For indoor use.

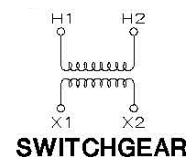
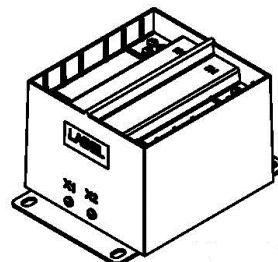
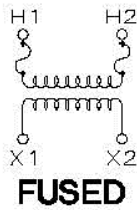
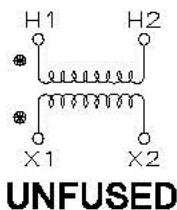
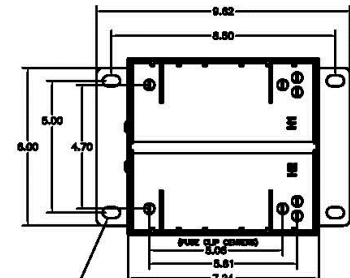
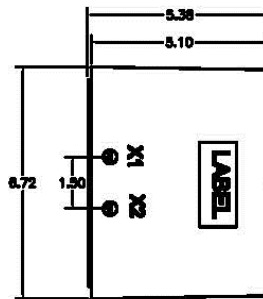
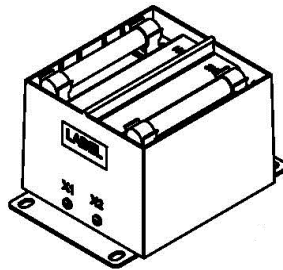
PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	THERMAL RATING	CATALOG NUMBERS				SUGGESTED FUSE RATING CONTINUOUS AMPERES
				UNFUSED (a)	FUSED	FUSE CLIPS ONLY	SWITCHGEAR	
2400	20:1	120	500VA	CPT3-60-0.5-242	CPT3-60-0.5-242FF	CPT3-60-0.5-242CC	CPT3-60-0.5-242SS	2.0E
3300	30:1	110-50Hz	450VA	CPT3-60-0.5-332	CPT3-60-0.5-332FF	CPT3-60-0.5-332CC	CPT3-60-0.5-332SS	1.0E
4200	35:1	120	500VA	CPT3-60-0.5-422	CPT3-60-0.5-422FF	CPT3-60-0.5-422CC	CPT3-60-0.5-422SS	1.0E
4800	40:1	120	450VA	CPT3-60-0.5-482	CPT3-60-0.5-482FF	CPT3-60-0.5-482CC	CPT3-60-0.5-482SS	1.0E
6600	60:1	110-50Hz	300VA	CPT3-60-0.5-662	-	-	CPT3-60-0.5-662SS	-
7200	60:1	120	300VA	CPT3-60-0.5-722	-	-	CPT3-60-0.5-722SS	-

(a) FUSES MUST BE MOUNTED SEPARATELY

UNFUSED STYLE



FUSED STYLE



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Control Power Transformer

Model CPT3-60-1.0

CERTIFICATIONS:



APPLICATION:

To provide control power in distribution equipment and motor starters.

FREQUENCY:

See below

INSULATION LEVEL:

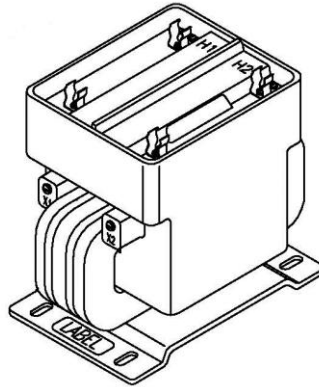
5 kV, 60 kV BIL, full wave

THERMAL RATING:

At 30°C. amb., see below.

APPROXIMATE WEIGHT:

40 lbs.

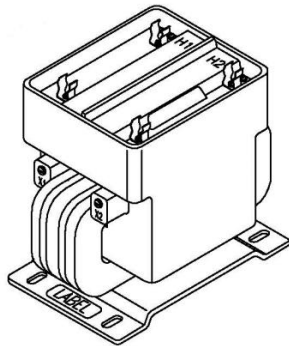


- An optional clear molded cover is available for added safety when desired.
- Primary and secondary terminals are brass screws No. 10-32 with one flat washer and lockwasher.
- The transformer winding is vacuum encapsulated in polyurethane resin.
- Plated steel mounting base.
- For indoor use.

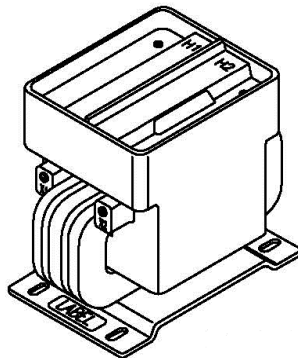
CATALOG NUMBER	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	FREQUENCY	THERMAL RATING	PRIMARY FUSE
CPT3-60-1.0-242FF	2400V	20:1	120V	60Hz	1.0kVA	2E
CPT3-60-1.0-332FF	3300V	30:1	110V	50Hz	0.8kVA	2E
CPT3-60-1.0-4161FF	4160V	34.7:1	120V	60Hz	1.0kVA	2E
CPT3-60-1.0-482FF	4800V	40:1	120V	60Hz	1.0kVA	2E
CPT3-60-1.0-662**	6600V	60:1	110V	50Hz	0.6kVA	2E
CPT3-60-1.0-722**	7200V	60:1	120V	60Hz	0.6kVA	2E

*For fuse clips only, change FF to CC

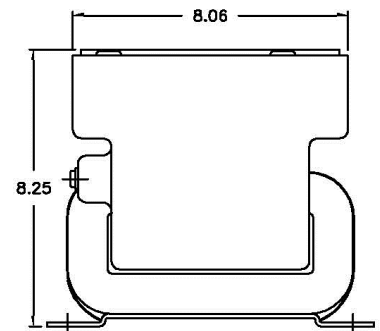
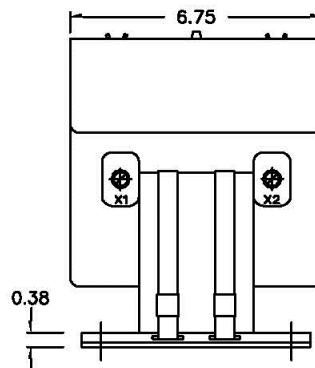
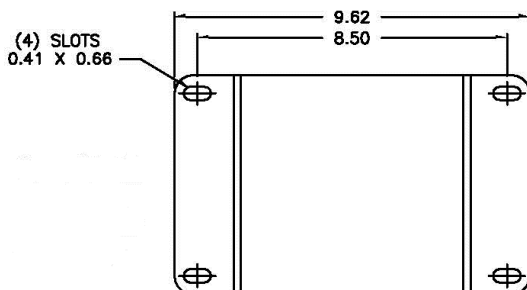
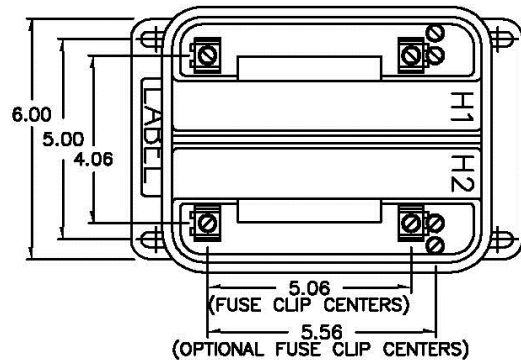
**Available as unfused only. Fuses must be mounted separately.



FUSED STYLE



UNFUSED STYLE



BASE PLATE

Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Control Power Transformer

Model CPT3-60-1.5

APPLICATION:

To provide control power in distribution equipment and motor starters

FREQUENCY:

See below

INSULATION LEVEL:

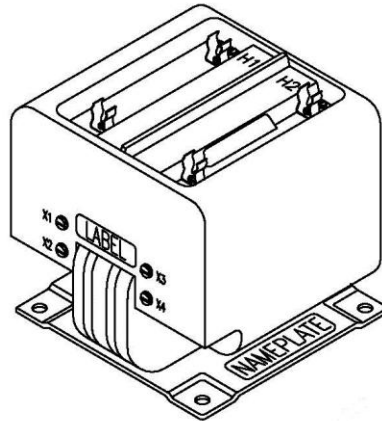
5 kV, 60 kV BIL. full wave

THERMAL RATING:

1.5 kVA at 30°C. amb.

APPROXIMATE WEIGHT:

54 lbs.



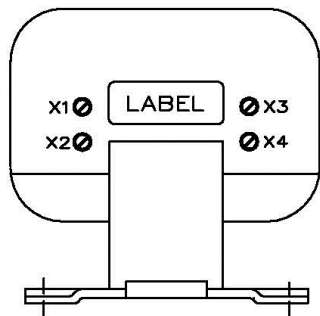
CERTIFICATIONS:



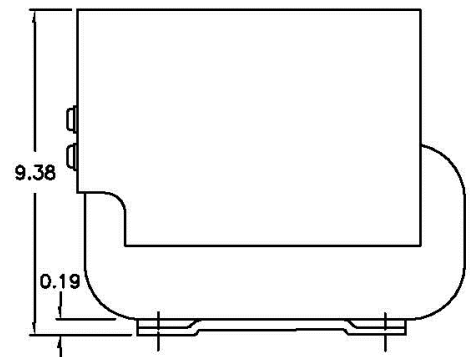
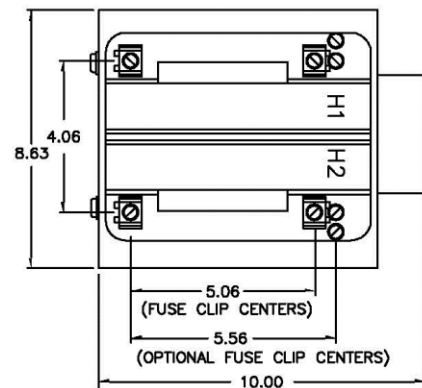
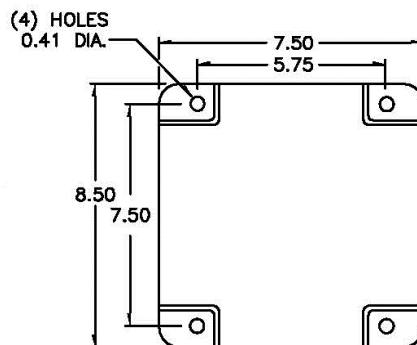
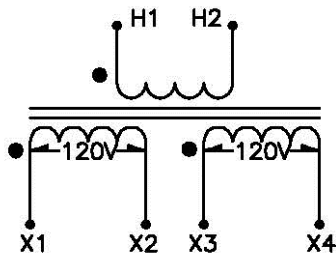
- Primary terminals are brass screws No. 10-32 with one flat washer and lockwasher.
- Secondary terminals are brass screws No. 10-32 with one flat washer and lockwasher.
- The transformer winding is vacuum encapsulated in polyurethane resin.
- Plated steel mounting base
- For indoor use.

CATALOG NUMBER	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	FREQUENCY	PRIMARY FUSE
CPT3-60-1.5-242FF	2400V	20:1	120/240V	60Hz	3E
CPT3-60-1.5-332FF	3300V	30:1	110/240V	50Hz	2E
CPT3-60-1.5-4161FF	4160V	34.7:1	120/240V	60Hz	2E
CPT3-60-1.5-482FF	4800V	40.1	120/240V	60Hz	2E

*For fuse clips only, change FF to CC



CONNECTION DIAGRAM





Control Power Transformer

Model CPT3-60-2

CERTIFICATIONS:



APPLICATION:

To provide control power in distribution equipment and motor starters

FREQUENCY:

See below

INSULATION LEVEL:

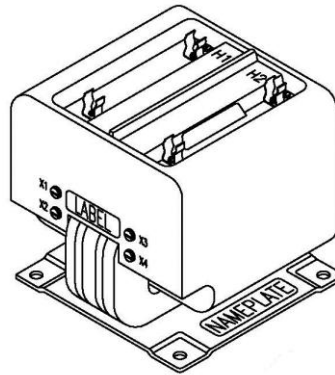
5 kV, 60 kV BIL, full wave

THERMAL RATING:

At 30°C. amb., see below

APPROXIMATE WEIGHT:

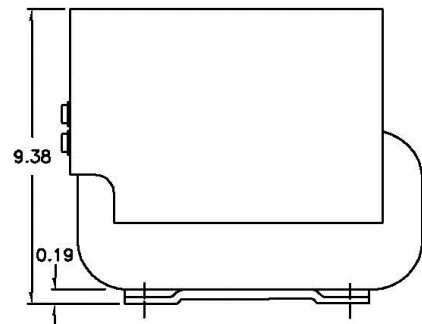
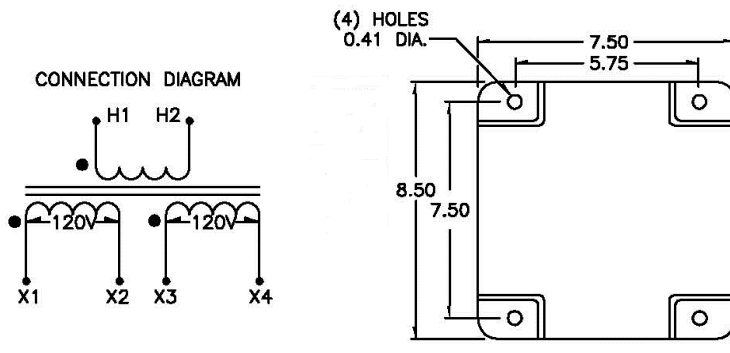
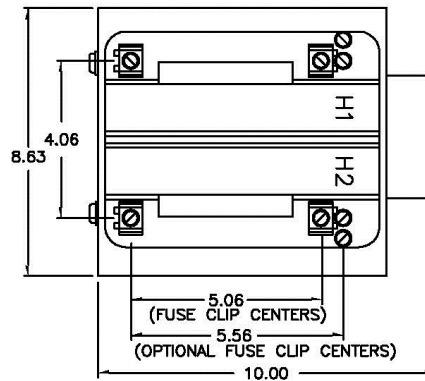
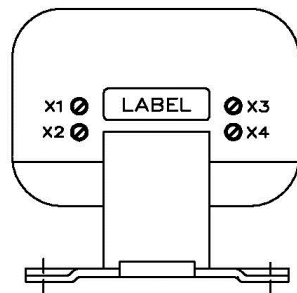
63 lbs.



- Primary terminals are brass screws No. 10-32 with one flat washer and lockwasher.
- Secondary terminals are brass screws No. 10-32 with one flat washer and lockwasher.
- The transformer winding is vacuum encapsulated in polyurethane resin
- Plated steel mounting base
- For indoor use

CATALOG NUMBER	PRIMARY VOLTAGE	RATIO	SECONDARY VOLTAGE	FREQUENCY	THERMAL RATING	PRIMARY FUSE
CPT3-60-2-242FF	2400V	20:1	120/240V	60Hz	2.0kVA	3E
CPT3-60-2-332FF	3300V	30:1	110/220V	50Hz	1.8kVA	2E
CPT3-60-2-4161FF	4160V	34.7:1	120/240V	60Hz	2.0kVA	2E
CPT3-60-2-482FF	4800V	40:1	120/240V	60Hz	2.0kVA	2E

*For fuse clips only, change FF to CC



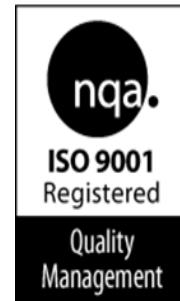
Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001



Control Power Transformer

Model CPT3-60-3

CERTIFICATIONS:



APPLICATION:

To provide control power in distribution equipment and motor starters

FREQUENCY:

60 Hz.

INSULATION LEVEL:

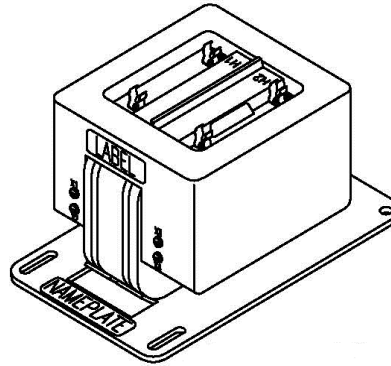
5 kV, 60 kV BIL. full wave

THERMAL RATING:

3 kVA at 30°C. amb.

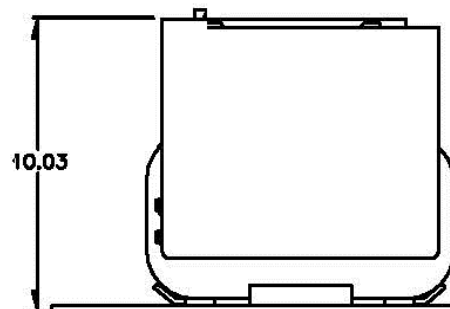
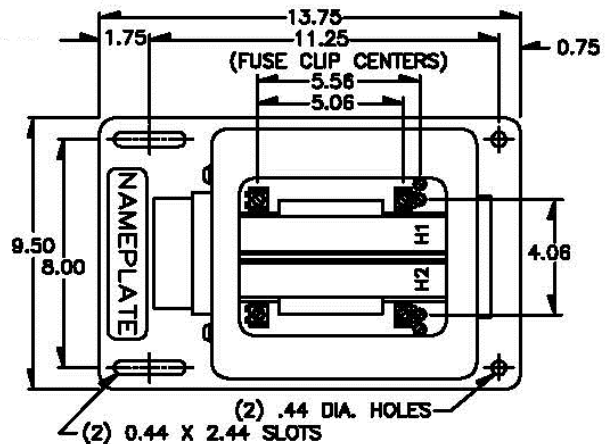
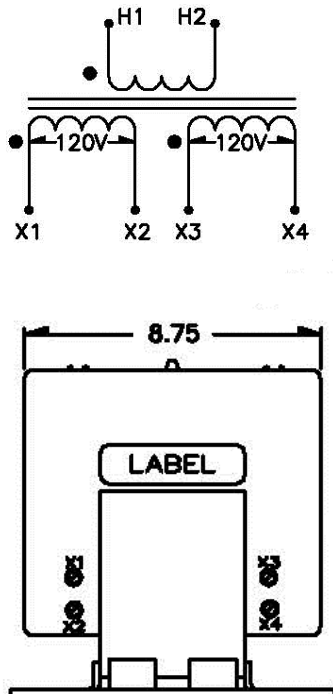
APPROXIMATE WEIGHT:

85 lbs.



CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 120 V	SECONDARY VOLTAGE	CATALOG NUMBER	PRIMARY FUSE
CPT3-60-3-242-XXX	2400	20:1	120/240	CPT3-60-3-242FF	5E
CPT3-60-3-4161-XXX	4160	34.7:1	120/240	CPT3-60-3-4161FF	3E
CPT3-60-3-482-XXX	4800	40:1	120/240	CPT3-60-3-482FF	3E

- Primary terminals are brass screws No. 10-32 with one flat washer and lockwasher or HV lead kit shown below.
- Secondary terminals are brass screws No. ¼ - 20 with one flat washer and lockwasher.
- The transformer winding is vacuum encapsulated in polyurethane resin.
- Plated steel mounting base
- For indoor use



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

APPLICATION:

To provide power in Motor Control centers and Distribution Switchgear

FREQUENCY:

50/60 Hz.

INSULATION LEVEL:

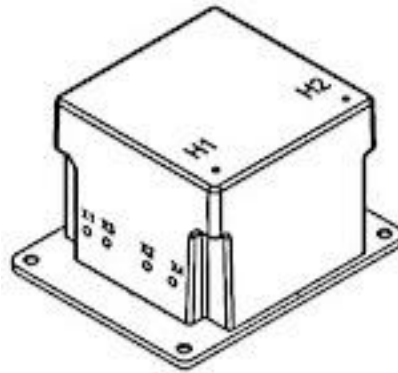
6.9 kV, 60 kV BIL. full wave

THERMAL RATING:

At 30°C. amb.

APPROXIMATE WEIGHT:

25 lbs.



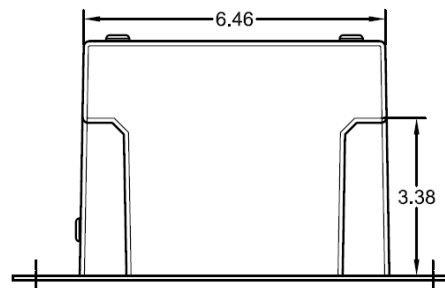
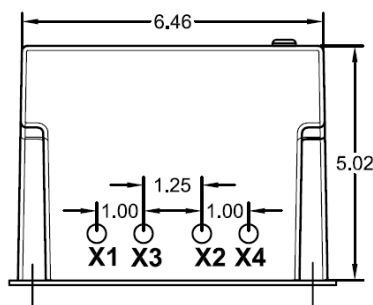
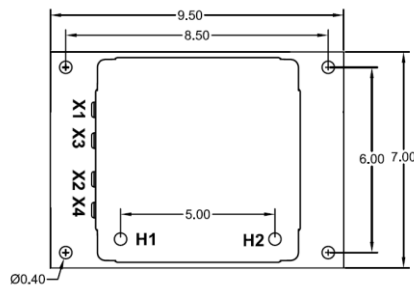
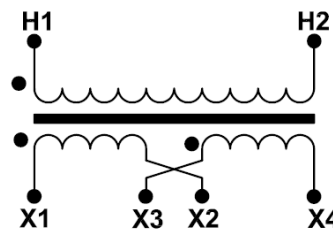
CERTIFICATIONS:



CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 120 V	SECONDARY VOLTAGE	FREQUENCY Hz	THERMAL RATING
CPT3 60 05 2400 – 6	2400	20.00	120/240	50/60	0.5 kVA
CPT3 60 05 3300 – 6	3300	27.50	120/240	50/60	0.5 kVA
CPT3 60 05 4160 – 6	4160	34.66	120/240	50/60	0.5 kVA
CPT3 60 05 4800 – 6	4800	40.00	120/240	50/60	0.5 kVA
CPT3 60 05 5000 – 6	5000	41.66	120/240	50/60	0.5 kVA
CPT3 60 05 5500 – 6	5500	45.83	120/240	50/60	0.5 kVA
CPT3 60 05 6000 – 6	6000	50.00	120/240	50/60	0.5 kVA
CPT3 60 05 6600 – 6	6600	55.00	120/240	50/60	0.5 kVA
CPT3 60 05 6900 - 6	6900	57.50	120/240	50/60	0.5 kVA

- Primary and secondary terminal are brass screws No. 10-32 with one flat washer and lockwasher.
- Transformer winding is vacuum encapsulated in polyurethane resin with temperature insulation class of 105°C
- Plated steel mounting base
- For indoor use

CONNECTION DIAGRAM





TTL Transformer Technologies Ltd.



Control Power Transformer

Model CPT3-60-05-5

APPLICATION:

To provide power in Motor Control centers and Distribution Switchgear

FREQUENCY:

50/60 Hz.

INSULATION LEVEL:

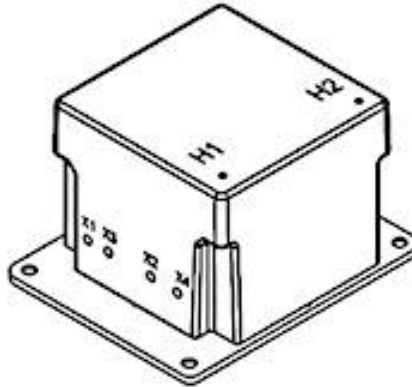
6.9 kV, 60 kV BIL. full wave

THERMAL RATING:

At 30°C. amb.

APPROXIMATE WEIGHT:

25 lbs.

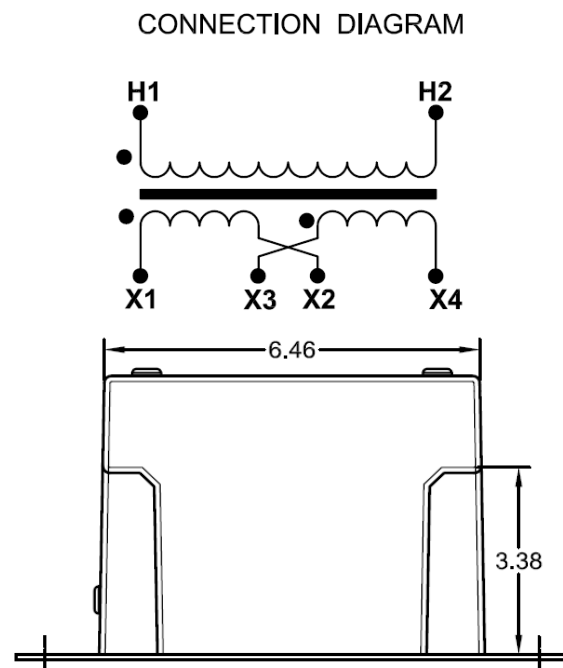
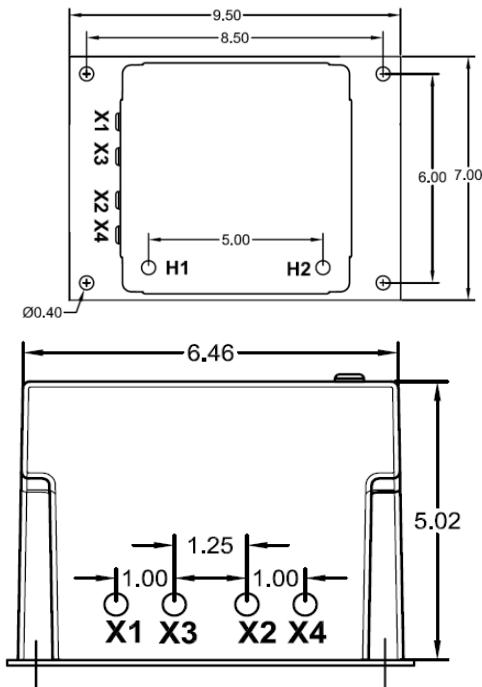


CERTIFICATIONS:



CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 110 V	SECONDARY VOLTAGE	FREQUENCY Hz	THERMAL RATING
CPT3 60 05 2400 - 5	2400	21.81	110/220	50/60	0.5 kVA
CPT3 60 05 3300 - 5	3300	30.00	110/220	50/60	0.5 kVA
CPT3 60 05 4160 - 5	4160	37.81	110/220	50/60	0.5 kVA
CPT3 60 05 4800 - 5	4800	43.63	110/220	50/60	0.5 kVA
CPT3 60 05 5000 - 5	5000	45.45	110/220	50/60	0.5 kVA
CPT3 60 05 5500 - 5	5500	50.00	110/220	50/60	0.5 kVA
CPT3 60 05 6000 - 5	6000	54.54	110/220	50/60	0.5 kVA
CPT3 60 05 6600 - 5	6600	60.00	110/220	50/60	0.5 kVA
CPT3 60 05 6900 - 5	6900	62.72	110/220	50/60	0.5 kVA

- Primary and secondary terminal are brass screws No. 10-32 with one flat washer and lockwasher.
- Transformer winding is vacuum encapsulated in polyurethane resin with temperature insulation class of 105°C
- Plated steel mounting base
- For indoor use



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

APPLICATION:

To provide power in Motor Control centers and Distribution Switchgear

FREQUENCY:

50/60 Hz.

INSULATION LEVEL:

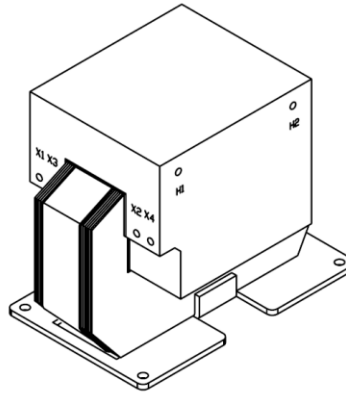
6.9 kV, 60 kV BIL. full wave

THERMAL RATING:

At 30°C. amb.

APPROXIMATE WEIGHT:

25 lbs.

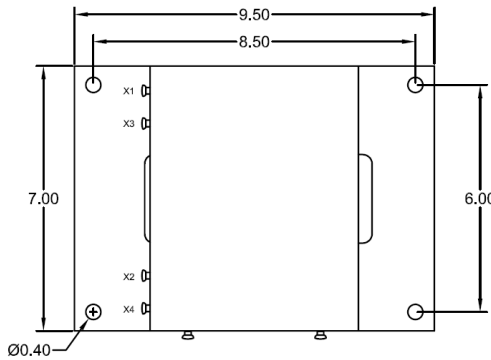


CERTIFICATIONS:

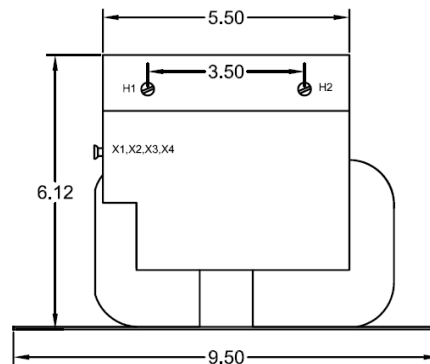
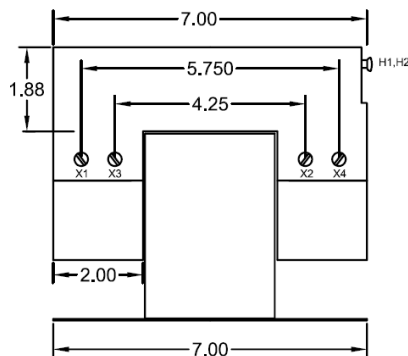
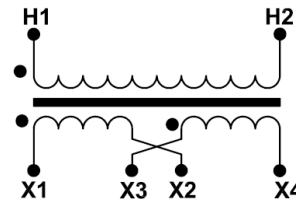


CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 120 V	SECONDARY VOLTAGE	FREQUENCY Hz	THERMAL RATING
CPT3 60 075 2400 - 6	2400	20.00	120/240	50/60	0.75 kVA
CPT3 60 075 3300 - 6	3300	27.50	120/240	50/60	0.75 kVA
CPT3 60 075 4160 - 6	4160	34.66	120/240	50/60	0.75 kVA
CPT3 60 075 4800 - 6	4800	40.00	120/240	50/60	0.75 kVA
CPT3 60 075 5000 - 6	5000	41.66	120/240	50/60	0.75 kVA
CPT3 60 075 5500 - 6	5500	45.83	120/240	50/60	0.75 kVA
CPT3 60 075 6000 - 6	6000	50.00	120/240	50/60	0.75 kVA
CPT3 60 075 6600 - 6	6600	55.00	120/240	50/60	0.75 kVA
CPT3 60 075 6900 - 6	6900	57.50	120/240	50/60	0.75 kVA

- Primary and secondary terminal are brass screws No. 10-32 with one flat washer and lockwasher.
- Transformer winding is vacuum encapsulated in polyurethane resin with temperature insulation class of 105°C
- Plated steel mounting base
- For indoor use



CONNECTION DIAGRAM





Control Power Transformer

Model CPT3-60-075-5

APPLICATION:

To provide power in Motor Control centers and Distribution Switchgear

FREQUENCY:

50/60 Hz.

INSULATION LEVEL:

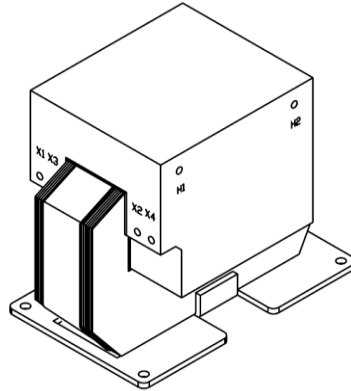
6.9 kV, 60 kV BIL. full wave

THERMAL RATING:

At 30°C. amb.

APPROXIMATE WEIGHT:

27 lbs.

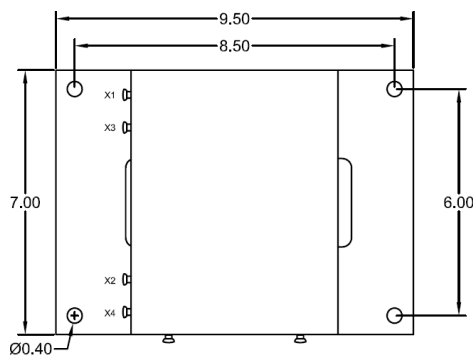


CERTIFICATIONS:

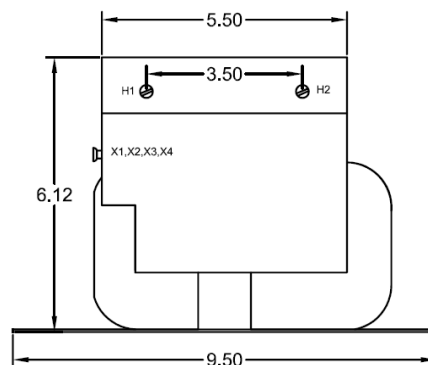
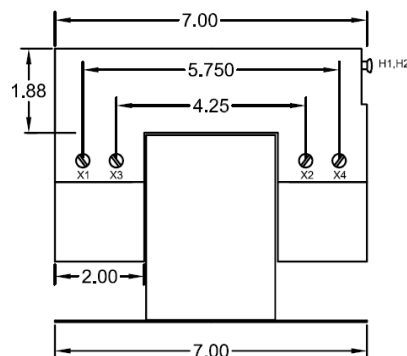
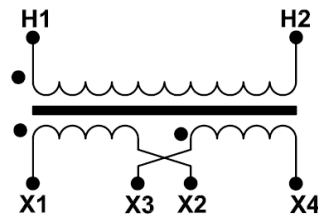


CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 110 V	SECONDARY VOLTAGE	FREQUENCY Hz	THERMAL RATING																							
CPT3 60 075 2400 – 5	2400	21.81	110/220	50/60	0.75 kVA																							
CPT3 60 075 3300 – 5	3300	30.00	110/220	50/60	0.75 kVA																							
CPT3 60 075 4160 – 5	4160	37.81	110/220	50/60	0.75 kVA																							
CPT3 60 075 4800 – 5	4800	43.63	110/220	50/60	0.75 kVA																							
CPT3 60 075 5000 – 5	5000	45.45	110/220	50/60 </tr <tr> <td>CPT3 60 075 5500 – 5</td> <td>5500</td> <td>50.00</td> <td>110/220</td> <td>50/60</td> <td>0.75 kVA</td> </tr> <tr> <td>CPT3 60 075 6000 – 5</td> <td>6000</td> <td>54.54</td> <td>110/220</td> <td>50/60</td> <td>0.75 kVA</td> </tr> <tr> <td>CPT3 60 075 6600 – 5</td> <td>6600</td> <td>60.00</td> <td>110/220</td> <td>50/60</td> <td>0.75 kVA</td> </tr> <tr> <td>CPT3 60 075 6900 – 5</td> <td>6900</td> <td>62.72</td> <td>110/220</td> <td>50/60</td> <td>0.75 kVA</td> </tr>	CPT3 60 075 5500 – 5	5500	50.00	110/220	50/60	0.75 kVA	CPT3 60 075 6000 – 5	6000	54.54	110/220	50/60	0.75 kVA	CPT3 60 075 6600 – 5	6600	60.00	110/220	50/60	0.75 kVA	CPT3 60 075 6900 – 5	6900	62.72	110/220	50/60	0.75 kVA
CPT3 60 075 5500 – 5	5500	50.00	110/220	50/60	0.75 kVA																							
CPT3 60 075 6000 – 5	6000	54.54	110/220	50/60	0.75 kVA																							
CPT3 60 075 6600 – 5	6600	60.00	110/220	50/60	0.75 kVA																							
CPT3 60 075 6900 – 5	6900	62.72	110/220	50/60	0.75 kVA																							

- Primary and secondary terminal are brass screws No. 10-32 with one flat washer and lockwasher.
- Transformer winding is vacuum encapsulated in polyurethane resin with temperature insulation class of 105°C
- Plated steel mounting base
- For indoor use



CONNECTION DIAGRAM



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

APPLICATION:

To provide power in Motor Control centers and Distribution Switchgear

FREQUENCY:

50/60 Hz.

INSULATION LEVEL:

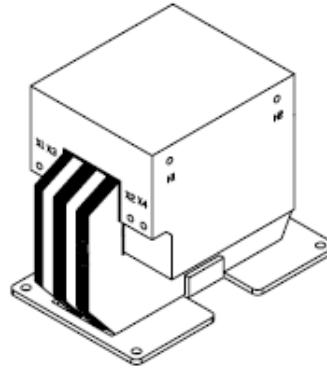
6.9 kV, 60 kV BIL, full wave

THERMAL RATING:

At 30°C. amb.

APPROXIMATE WEIGHT:

57 lbs.

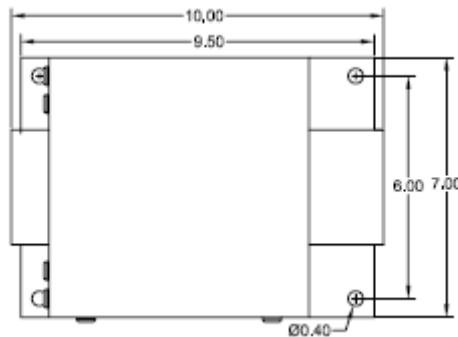


CERTIFICATIONS:

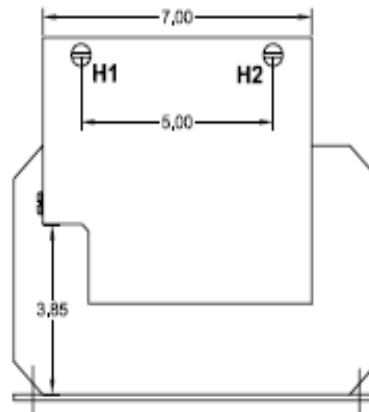
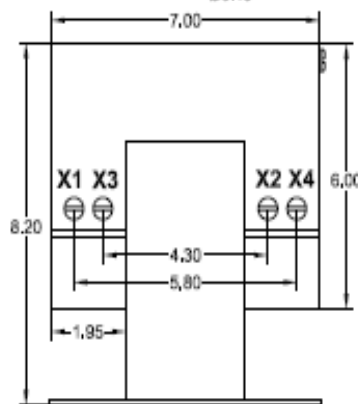
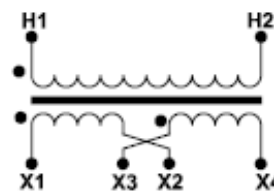


CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 120 V	SECONDARY VOLTAGE	FREQUENCY Hz	THERMAL RATING
CPT3 60 2 2400 - 6	2400	20.00	120/240	50/60	2.0 kVA
CPT3 60 2 3300 - 6	3300	27.50	120/240	50/60	2.0 kVA
CPT3 60 2 4160 - 6	4160	34.66	120/240	50/60	2.0 kVA
CPT3 60 2 4800 - 6	4800	40.00	120/240	50/60	2.0 kVA
CPT3 60 2 5000 - 6	5000	41.66	120/240	50/60	2.0 kVA
CPT3 60 2 5500 - 6	5500	45.83	120/240	50/60	2.0 kVA
CPT3 60 2 6000 - 6	6000	50.00	120/240	50/60	2.0 kVA
CPT3 60 2 6600 - 6	6600	55.00	120/240	50/60	2.0 kVA
CPT3 60 2 6900 - 6	6900	57.50	120/240	50/60	2.0 kVA

- Primary and secondary terminal are brass screws No. 10-32 with one flat washer and lockwasher.
- Transformer winding is vacuum encapsulated in polyurethane resin with temperature insulation class of 105°C
- Plated steel mounting base
- For indoor use



CONNECTION DIAGRAM





Control Power Transformer

Model CPT3-60-2-5

APPLICATION:

To provide power in Motor Control centers and Distribution Switchgear

FREQUENCY:

50/60 Hz.

INSULATION LEVEL:

6.9 kV, 60 kV BIL. full wave

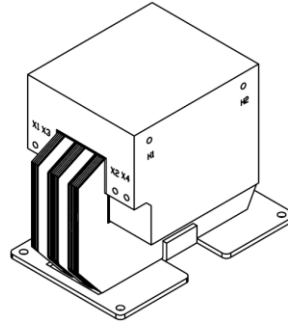
THERMAL RATING:

At 30°C. amb.

CONNECTIONS:

APPROXIMATE WEIGHT:

57 lbs.

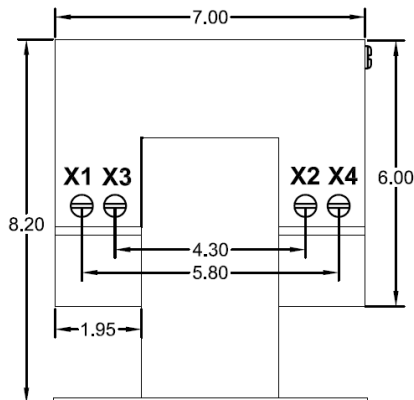
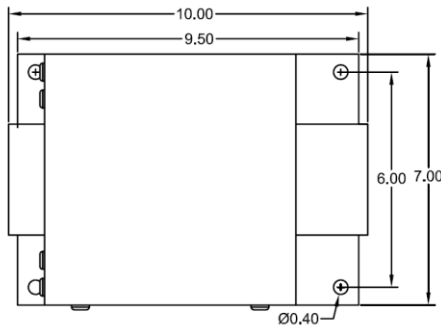


CERTIFICATIONS:

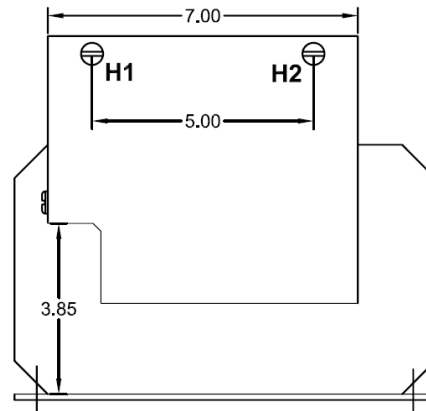
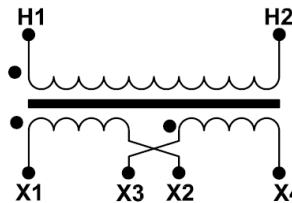


CATALOG NUMBER	PRIMARY VOLTAGE	RATIO AT 110 V	SECONDARY VOLTAGE	FREQUENCY Hz	THERMAL RATING
CPT3 60 2 2400 – 5	2400	21.81	110/220	50/60	2.0 kVA
CPT3 60 2 3300 – 5	3300	30.00	110/220	50/60	2.0 kVA
CPT3 60 2 4160 – 5	4160	37.81	110/220	50/60	2.0 kVA
CPT3 60 2 4800 – 5	4800	43.63	110/220	50/60	2.0 kVA
CPT3 60 2 5000 – 5	5000	45.45	110/220	50/60	2.0 kVA
CPT3 60 2 5500 – 5	5500	50.00	110/220	50/60	2.0 kVA
CPT3 60 2 6000 – 5	6000	54.54	110/220	50/60	2.0 kVA
CPT3 60 2 6600 – 5	6600	60.00	110/220	50/60	2.0 kVA
CPT3 60 2 6900 - 5	6900	62.72	110/220	50/60	2.0 kVA

- Primary and secondary terminal are brass screws No. 10-32 with one flat washer and lockwasher.
- Transformer winding is vacuum encapsulated in polyurethane resin with temperature insulation class of 105°C
- Plated steel mounting base
- For indoor use



CONNECTION DIAGRAM



Products are manufactured in a plant whose quality management system is certified / registered as being in conformity with ISO 9001

TECHNICAL DATA

STANDARDS

- I. Current Transformers
 - a. I.E.E.E. / A.N.S.I. Publication I.E.E.E. Std. C57.13-2008
 - b. I.E.C. Publication No. I.E.C. 61869-2
- II. Voltage Transformers
 - a. I.E.E.E. / A.N.S.I. Publication I.E.E.E. Std. C57-13-2008
 - b. I.E.C. Publication No. 61869-3

Standards listed are ones we most commonly use in the field. It should be understood that standards are not laws, but are suggested guidelines for users and manufacturers alike. The standards usually suggest test and testing procedures as well.

The following is based on U.S.A. standards (C57.13-2008) which is the standard of choice in the U.S.A.

I.E.C. (International Electro technical Commission) is the standard of choice of the international community.

CURRENT TRANSFORMERS

Accuracy & Burden – Accuracy is defined for two different types of applications (metering and relaying).

The following table defines metering accuracy classes.

The limits of transformer correction factor in standard shall be as shown in Table 1.

**STANDARD ACCURACY CLASSES
TABLE 1**

METERING ACCURACY CLASS	VOLTAGE TRANSFORMERS (at 100% rated voltage)		CURRENT TRANSFORMERS			
	RATIO CORRECTION FACTORS					
			*At 100% rated current		*At 100% rated current	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
0.3	0.997	1.003	0.997	1.003	0.994	1.006
0.6	0.994	1.006	0.994	1.006	0.988	1.012
1.2	0.998	1.012	0.988	1.012	0.976	1.024

***For current transformers the 100% rated current limit also applies to the current corresponding to the continuous thermal current rating factor.**

Accuracy statement (0.3, 0.6, 1.2) is not complete unless it is stated at a given burden. Table 2 defines the standard burdens for metering and relaying as well.

TECHNICAL DATA

**STANDARD BURDENS FOR CURRENT TRANSFORMERS WITH 5 SECONDARY WINDINGS
TABLE 2**

BURDENS	BURDEN DESIGNATION**	RESISTANCE (Ω)	INDUCTANCE (mH)	IMPEDANCE (Ω)	VOLTAMPERES (at 5 A)	POWER FACTOR
Metering Burdens	B-0.1	0.09	0.116	0.1	2.5	0.9
	B-0.2	0.18	0.232	0.2	5.0	0.9
	B-.05	0.45	0.580	0.5	12.5	0.9
	B-0.9	0.81	1.040	0.9	22.5	0.9
	B-1.8	1.62	2.080	1.8	45.0	0.9
Relaying Burdens	B-1	0.50	2.300	1.0	25.0	0.5
	B-2	1.00	4.600	2.0	50.0	0.5
	B-4	2.00	9.200	4.0	100.0	0.5
	B-8	4.00	18.400	8.0	200.0	0.5

*If a current transformer secondary winding is rated at other than 5 A, ohmic burdens for specification and rating shall be derived by multiplying the resistance and inductance of the table $[5 / (\text{ampere rating})]^2$, the VA at rated current, the power factor, and the burden designation remaining the same.

**These standard burden designations have no significance at frequencies other than 60 Hz.

There is another factor which must be considered, that is, phase error. Table 3 gives the maximum acceptable phase error associated with the standard accuracy classes.

TABLE 3

ACCURACY CLASSES	± PHASE ERROR AT 100% PRIMARY CURRENT	± PHASE ERROR AT 10% PRIMARY CURRENT
0.3	15.6 MINUTES	31.2 MINUTES
0.6	31.2 MINUTES	62.4 MINUTES
1.2	62.4 MINUTES	24.8 MINUTES

If you have a metering accuracy statement of “0.3 BO.5”, it indicates the following:

(0.3) maximum ratio error of 0.3% at 100% of rated primary current or $\pm 0.6\%$ ratio error at 10% of rated primary current. With a maximum phase error of ± 15.6 minutes at 100% rated primary current or ± 31.2 minutes maximum phase error at 10% of rated primary current. All of the above is based on a burden of (BO.5) 0.5 OHMS at power factor of 0.9.

TECHNICAL DATA

CURRENT TRANSFORMERS RELAYING ACCURACY

All relaying accuracies are $\pm 10\%$ maximum ratio error when there is 20 times current flowing in the CT secondary ($20 \times 5A=100A$). There are two designations which are “C” and “T”. Designation “C” stands for “Calculate”. This type of CT’s performance can be very accurately calculated. The “T” designation stands for “Test”. This type of CT’s performance must be verified by testing. Table 4 gives the relaying accuracy designations:

TABLE 4

DESIGNATION	BURDEN	POWER FACTOR	SECONDARY VOLTAGE
C 10 or T10	0.1 Ω	0.5	10V
C 20 or T20	0.2 Ω	0.5	20V
C 50 or T50	0.5 Ω	0.5	50V
C 100 or T100	1.0 Ω	0.5	100V
C 200 or T200	2.0 Ω	0.5	200V
C 400 or T400	4.0 Ω	0.5	400V
C 800 or T800	8.0 Ω	0.5	800V

VOLTAGE TRANSFORMERS

Voltage transformers have the same accuracy classes as indicated in Table 1 (i.e. 0.3, 0.6 & 1.2). These accuracy classes must be given at a stated burden in order to be meaningful. Table 5 gives the standard burden data:

**VOLTAGE TRANSFORMER BURDEN DATA
TABLE 5**

BURDEN	VOLT AMPERES	POWER FACTOR	P.F. ANGLE
W	12.5	0.10	84.3°
X	25	0.70	45.6°
M	35	0.20	78.5°
Y	75	0.85	31.8°
Z	200	0.85	31.8°
ZZ	400	0.85	31.8°

If you have a “0.6Y” accuracy and burden statement, it indicates the following:

This means: (0.6) maximum ratio error of + 0.6% at a burden of 75VA with a power factor of 0.85.

TECHNICAL DATA

CURRENT TRANSFORMERS RATIO MODIFICATION

Relatively large changes in ratio may be achieved through the use of primary turns. For example:

TABLE 6

CT RATIO	NUMBER OF PRIMARY TURNS	MODIFIED RATIO
100:5A	2	50:5A
200:5A	2	100:5A
300:5A	2	150:5A
100:5A	3	33.3:5A
200:5A	3	66.6:5A
300:5A	3	100:5A
100:5A	4	25:5A
200:5A	4	50:5A
300:5A	4	75:5A

A primary turn is the number of times the primary conductor passes through the CT's window. The main advantage of this ratio modification is maintaining the accuracy and burden capabilities of the higher ratio. The higher the primary rating the better the accuracy and burden rating.

Smaller ratio modification adjustments can be made by using additive or subtractive secondary turns. For example, if a CT with a ratio of 100:5A: By adding one additive secondary turn, the ratio modification is 105:5A; by adding on subtractive secondary turn, the ratio modification is 95:5A. Subtractive secondary turns are achieved by placing the "X1" lead through the window from the H1 side and out the H2 side. Additive secondary turns are achieved by placing the "X1" lead through the window from the H2 and out of the H1 side. So, when there is only one primary turn, each secondary turn modifies the primary rating by 5 amperes. If there is more than one primary turn, each secondary turn value is changes (i.e. 5A divided by 2 primary turns = 2.5A). Table 7 illustrates the effects of different combinations of primary and secondary turns:

TABLE 7

PRIMARY TURNS	SECONDARY TURNS	RATIO ADJUSTMENT
1	-0-	100:5A
1	1+	105:5A
1	1-	95:5A
2	-0-	50:5
2	1+	52.5:5A
2	2-	45.0:5A
3	-0-	33.3:5A
3	1+	34.97:5A
3	1-	31.63:5A

The use of primary/secondary turns makes it is possible to modify any CT ratio, since low ratio CT's generally have poorer performances characteristics and high ratio CT's have

TECHNICAL DATA

better performance. By using added primary/secondary turns, you can modify a higher ratio CT to have a lower ratio and enjoy the better performance of the higher ratio.

***Use Table 8 to determine size window needed for number and primary conductor(s)**

TABLE 8

WINDOW DIAMETER		1/2"	3/4"	1"	1 1/2"	2"	1 1/2"	3"	3 1/2"	4"	5"	6"
INSULATION TYPE RHW	AWG MCM											
	14	3	6	10	25	41	58	90	121	155	-	-
	12	3	5	9	21	35	50	77	103	132	-	-
	10	2	4	7	18	29	41	64	86	110	-	-
	8	1	2	4	9	16	22	35	47	60	94	137
	6	1	1	2	6	11	15	24	32	41	64	93
	4	1	1	1	5	8	12	18	24	31	50	72
	3	1	1	1	4	7	10	16	22	38	44	63
	2	-	1	1	4	6	9	14	19	24	38	56
	1	-	1	1	3	5	7	11	14	18	29	42
	0	-	1	1	2	4	6	9	12	16	25	47
	00	-	-	1	1	3	5	8	11	14	22	32
	000	-	-	1	1	3	4	7	9	12	19	28
	0000	-	-	1	1	2	4	6	8	10	16	24
	250	-	-	-	1	1	3	5	6	8	13	19
	300	-	-	-	1	1	3	4	5	7	11	17
	350	-	-	-	1	1	2	4	5	6	10	15
	400	-	-	-	1	1	1	3	4	6	9	14
	500	-	-	-	1	1	1	3	4	5	8	11
	600	-	-	-	1	1	1	2	3	4	6	9
	700	-	-	-	1	1	1	1	3	3	6	8
	750	-	-	-	1	1	1	1	3	3	5	8

Burden is the opposition to the flow of current from the transformers secondary. Burden may be expressed in terms of resistance of volt-amperes. The following table may be used to convert volt-ampere values to resistance values for 5 amp secondary CT's:

TECHNICAL DATA

BURDEN

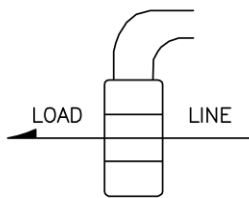
TABLE 9

VOLTAMPERE (VA)	RESISTANCE (OHMS) Ω
0.5	0.02
1.0	0.04
1.5	0.06
2.0	0.08
2.5	0.10
3.0	0.12
3.5	0.14
4.0	0.16
4.5	0.18
5.0	0.20
5.5	0.22
6.0	0.24
6.5	0.26
7.0	0.28
7.5	0.30
8.0	0.32
8.5	0.34
9.0	0.36
9.5	0.38
10.0	0.40
12.5	0.50
15.0	0.60
20.0	0.80
25.0	1.00
45.0	1.80
50.0	2.00
75.0	3.00
100.0	4.00

APPLICATION GUIDE

Primary Turn Ratio Modification

The nameplate of the current transformer is based on the condition that the primary conductor will be passed once through the transformer opening. The rating can be reduced in even multiples by looping this conductor two or more times through the opening. A transformer having a rating of 200 to 5 amperes will be changed to 50 to 5 amperes if four loops or turns are made with the primary cable as illustrated.

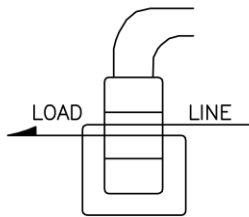


1 Primary Turn

NAMEPLATE RATIO	ACTUAL RATIO
100:5	100:5
150:5	150:5
200:5	200:5
300:5	300:5
400:5	400:5
500:5	500:5
600:5	600:5
800:5	800:5

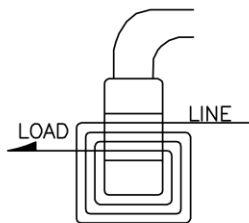
2 Primary Turns

NAMEPLATE RATIO	ACTUAL RATIO
100:5	50:5
150:5	75:5
200:5	100:5
300:5	150:5
400:5	200:5
500:5	250:5
600:5	300:5
800:5	400:5



4 Primary Turns

NAMEPLATE RATIO	ACTUAL RATIO
100:5	25:5
150:5	37.5:5
200:5	50:5
300:5	75:5
400:5	100:5
500:5	125:5
600:5	150:5
800:5	200:5



Secondary Turn Ratio Modification

$$\text{Formula: } \frac{I_p}{I_s} = \frac{N_s}{N_p}$$

Where: I_p – Primary Amperage
 I_s – Secondary Amperage
 N_p – Number of Primary Turns
 N_s – Number of Secondary Turns

Example: A 300:5 Current Transformer –

$$\frac{300 p}{5 s} = \frac{60 s}{1 p}$$

(In practicality one turn is dropped from the secondary as a ratio correction factor).

The ratio of the current transformer can be modified by altering the number of secondary turns by forward or backwinding the secondary lead through the window of the current transformer.

By adding secondary turns the same primary amperage will result in a decrease in secondary output. By subtracting secondary turns the same primary amperage will result in greater secondary output.

Again, using the 300:5 example adding five secondary turns will require 325 amps on the primary to maintain the 5 amp secondary output or:

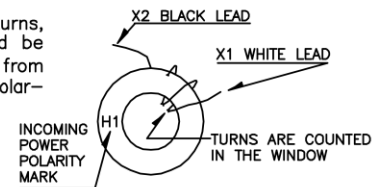
$$\frac{325 p}{5 s} = \frac{65 s}{1 p}$$

Deducting 5 secondary turns will only require 275 amps on the primary to maintain the 5 amp secondary output or:

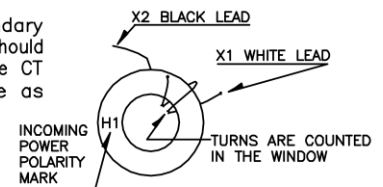
$$\frac{275 p}{5 s} = \frac{55 s}{1 p}$$

The above ratio modifications are achieved in the following manner:

To add secondary turns, the white lead should be wound through the CT from the side opposite the polarity mark.



To subtract secondary turns the white lead should be wound through the CT from the same side as the polarity mark.



Medium Voltage PT Part Number

PT G 3 - 1 - 60 - 42 2 F

Potential Transformer

Style (Base Plate)
G - GE Style
W - Westinghouse Style

Voltage Level
3 = 5.6kV
4 = 9.52 kV
5 = 15.5 kV

Poles (Outputs)
1 or 2

BIL (Basic Impulse Lvl)
60, 75 or 110

First two digits of primary voltage.

Number of zeros following first two numbers.

Number of fuses (F), switchgear style (S) or clips (C).

Control Power Transformer Part Number

CPT 3 - 60 - 0.5 - 24 2 FF

Control Power Transformer

Voltage Level
3 = 5kV

BIL (Basic Impulse Lvl)
60

Thermal Rating (VA)
0.5, 1, 1.5, 2, 3

First two digits of primary voltage.

Number of zeros following first two numbers.

Number of fuses (F), switchgear style (S) or clips (C).

Current Transformer Part Number

2 | **RL** | **-** | **10** | **2** | **-** | **1** | **-** | **LL** | **48**

Model

Frame Type

RL = Round with Leads
SHT = Square with Holes and Terminals
SFT = Square with Feet and Terminals
DRL = Double Core Round with Leads
RT = Round with Terminals

First two
digits of
primary
current.

Number
of zeros
following
first two
numbers.

Secondary
if other
than 5A

Lead length if
longer than 24".
Also for twisted
leads (TL).

Customized
lead length.

Low Voltage VT Part Number

450 | **I** | **-** | **480** | **FF**

Model

Use 'I' if IEC class (50 Hz,
110V Secondary)

Primary Voltage Rating

Number of fuses
(if appropriate)