Auxiliary current or voltage transformer
Indoor, 2500 volts test voltage

Product features
- Current or voltage, indoor
- 2500 volts test voltage
- 25-60 Hertz
- Varnish impregnated for added protection and strength

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

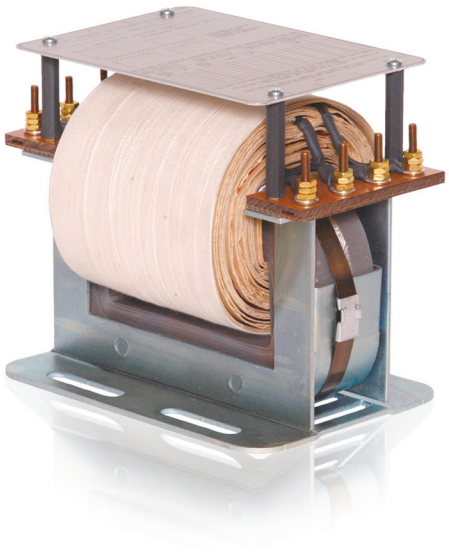
The transformer may be used as a voltage transformer at voltages not exceeding 0.6 volts per turn. When used as a voltage transformer, the burden impedance must be at least 100 times the transformer impedance in order to keep the ratio error within 1%:

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

Example: style number 7881A05G03
- Secondary: Two 80-turn sections in series, 160 turns, 0.133 ohm
- Primary: 100 turns (terminals 1-3) = 0.084 ohm
- Impedance: 0.133 + 0.084 (160/100)2 = 0.348
  The burden impedance should be at least 34.8 ohms
- Typical accuracy values (at 800 ampere turns):
  Metering: 0.3 - B0.5, 0.6 - B1.8
  Relaying: T50

Construction features
Coil leads on multi-ratio units are brought out to stud-type terminals. Coils are impregnated in varnish for moisture protection and increased dielectric strength.

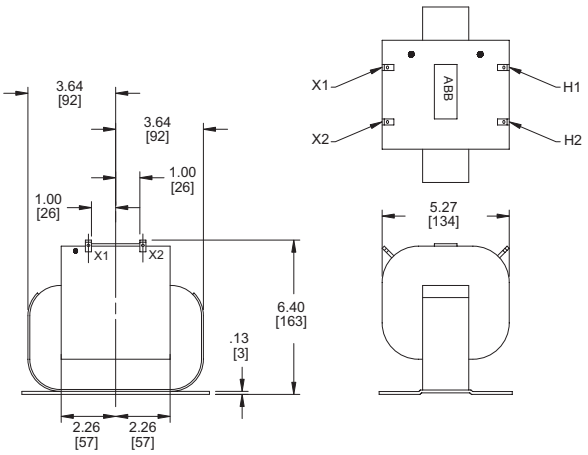
Baseplate
The base is constructed of corrosion-resistant aluminum and designed with slots for flat surface mounting or pipe frame mounting using U-bolts.



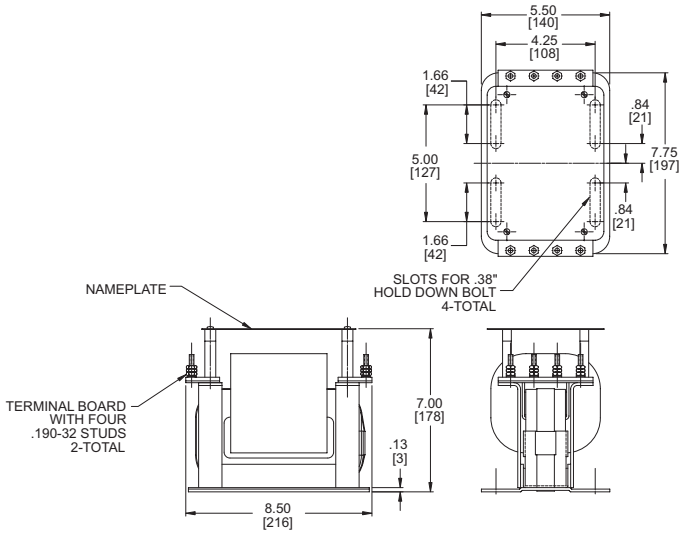
Test reports
IEEE test reports are stored electronically in various formats and can be e-mailed at time of shipment.

Standards
This unit meets all applicable IEEE and NEMA standards.

Unit dimensions



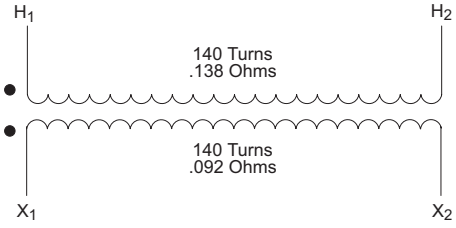
Single ratio



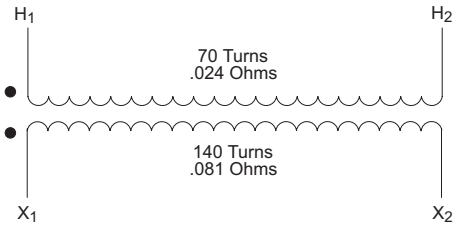
Multi ratio

Metric dimensions are displayed in [mm].

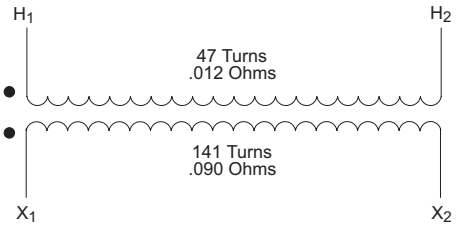
Nameplate data (single ratio)



Style number 7881A01G01 (5/5)



Style number 7881A01G02 (10/5)

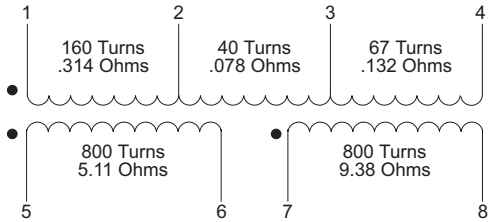


Style number 7881A01G03 (15/5)

Nameplate data (multi ratio)

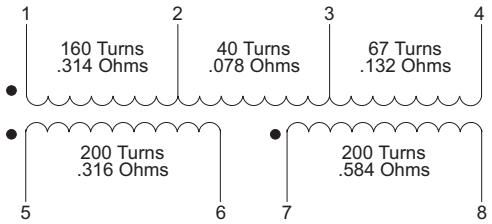
Style number: 7881A02G01

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
3	1 - 4	1.0	5 to 7 - 6 to 8	5 - 8	3	0.333	2.0	140
3	1 - 4	0.5	6 to 7	5 - 8	6	0.166	2.0	140
4	1 - 3	1.0	5 to 7 - 6 to 8	5 - 8	4	0.250	1.75	105
4	1 - 3	0.5	6 to 7	5 - 8	8	0.125	1.75	105
5	1 - 2	1.0	5 to 7 - 6 to 8	5 - 8	5	0.20	1.50	84
5	1 - 2	0.5	6 to 7	5 - 8	10	0.10	1.50	84
7.5	2 - 4	1.0	5 to 7 - 6 to 8	5 - 8	7.5	0.133	1.25	56
7.5	2 - 4	0.5	6 to 7	5 - 8	15	0.067	1.25	56



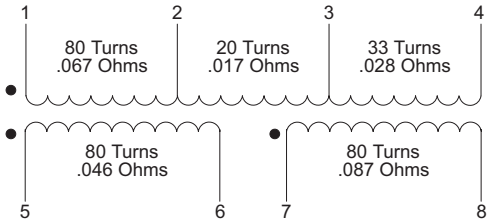
Style number: 7881A02G02

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
3	1 - 4	4.0	5 to 7 - 6 to 8	5 - 8	0.75	1.333	2.0	140
3	1 - 4	2.0	6 to 7	5 - 8	1.5	0.666	2.0	140
4	1 - 3	4.0	5 to 7 - 6 to 8	5 - 8	1.0	1.0	1.75	105
4	1 - 3	2.0	6 to 7	5 - 8	2.0	0.50	1.75	105
5	1 - 2	4.0	5 to 7 - 6 to 8	5 - 8	1.25	0.80	1.5	84
5	1 - 2	2.0	6 to 7	5 - 8	2.50	0.40	1.5	84
7.5	2 - 4	4.0	5 to 7 - 6 to 8	5 - 8	1.875	0.533	1.25	56
7.5	2 - 4	2.0	6 to 7	5 - 8	3.75	0.267	1.25	56



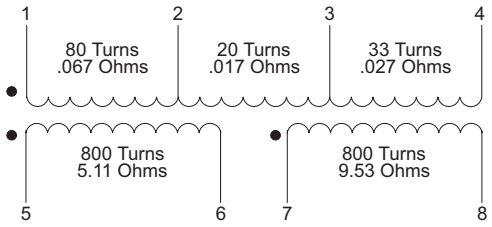
Style number: 7881A02G03

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
6	1 - 4	10	5 to 7 - 6 to 8	5 - 8	0.60	1.666	2.0	165
6	1 - 4	5	6 to 7	5 - 8	1.20	0.833	2.0	165
8	1 - 3	10	5 to 7 - 6 to 8	5 - 8	0.80	1.25	1.75	125
8	1 - 3	5	6 to 7	5 - 8	1.60	0.625	1.75	125
10	1 - 2	10	5 to 7 - 6 to 8	5 - 8	1.00	1.00	1.50	100
10	1 - 2	5	6 to 7	5 - 8	2.00	0.50	1.50	100



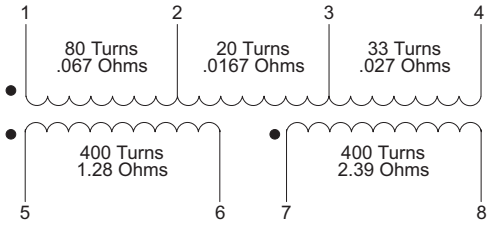
Style number: 7881A02G04

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
6	1 - 4	1.0	5 to 7 - 6 to 8	5 - 8	6	0.166	2.0	140
6	1 - 4	0.5	6 to 7	5 - 8	12	0.083	2.0	140
8	1 - 3	1.0	5 to 7 - 6 to 8	5 - 8	8	0.125	1.75	105
8	1 - 3	0.5	6 to 7	5 - 8	16	0.063	1.75	105
10	1 - 2	1.0	5 to 7 - 6 to 8	5 - 8	10	0.10	1.50	84
10	1 - 2	0.5	6 to 7	5 - 8	20	0.05	1.50	84



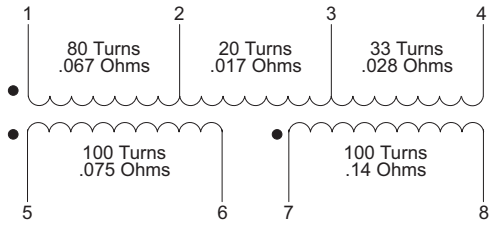
Style number: 7881A02G05

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
6	1 - 4	2	5 to 7 - 6 to 8	5 - 8	3	0.333	2.0	140
6	1 - 4	1	6 to 7	5 - 8	6	0.166	2.0	140
8	1 - 3	2	5 to 7 - 6 to 8	5 - 8	4	0.250	1.75	105
8	1 - 3	1	6 to 7	5 - 8	8	0.125	1.75	105
10	1 - 2	2	5 to 7 - 6 to 8	5 - 8	5	0.200	1.50	84
10	1 - 2	1	6 to 7	5 - 8	10	0.100	1.50	84



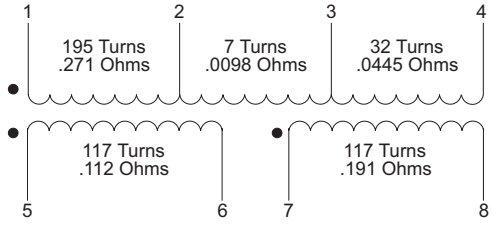
Style number: 7881A02G06

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
6	1 - 4	8	5 to 7 - 6 to 8	5 - 8	0.75	1.333	2.0	165
6	1 - 4	4	6 to 7	5 - 8	1.50	0.666	2.0	165
8	1 - 3	8	5 to 7 - 6 to 8	5 - 8	1.0	1.00	1.75	125
8	1 - 3	4	6 to 7	5 - 8	2.0	0.50	1.75	125
10	1 - 2	8	5 to 7 - 6 to 8	5 - 8	1.25	0.80	1.50	100
10	1 - 2	4	6 to 7	5 - 8	2.5	0.40	1.50	100



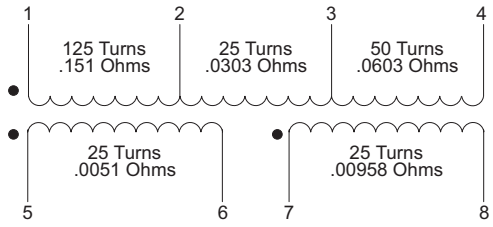
Style number: 7881A02G07

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
4	1 - 4	8	5 to 7 - 6 to 8	5 - 8	0.5	2.0	2.0	170
4	1 - 4	4	6 to 7	5 - 8	1.0	1.0	2.0	170
4.62	1 - 3	8	5 to 7 - 6 to 8	5 - 8	0.577	1.73	1.75	150
4.62	1 - 3	4	6 to 7	5 - 8	1.15	0.867	1.75	150
4.8	1 - 2	8	5 to 7 - 6 to 8	5 - 8	0.6	1.67	1.75	140
4.8	1 - 2	4	6 to 7	5 - 8	1.2	0.833	1.75	140



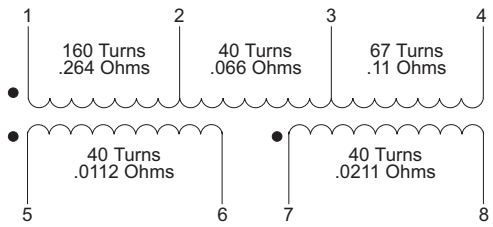
Style number: 7881A03G01

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
4	1 - 4	32	5 to 7 - 6 to 8	5 - 8	0.125	8	2.0	140
4	1 - 4	16	6 to 7	5 - 8	0.25	4	2.0	140
5.33	1 - 3	32	5 to 7 - 6 to 8	5 - 8	0.166	6	1.75	125
5.33	1 - 3	16	6 to 7	5 - 8	0.333	3	1.75	125
6.4	1 - 2	32	5 to 7 - 6 to 8	5 - 8	0.20	5	1.50	100
6.4	1 - 2	16	6 to 7	5 - 8	0.40	2.5	1.50	100
10.66	2 - 4	32	5 to 7 - 6 to 8	5 - 8	0.333	3	1.25	50
10.66	2 - 4	16	6 to 7	5 - 8	0.666	1.5	1.25	50



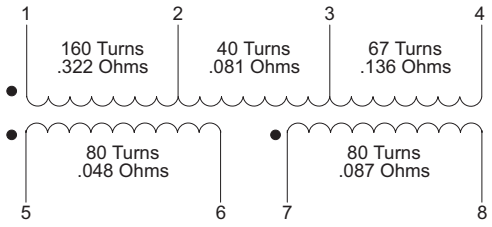
Style number: 7881A03G02

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
3	1 - 4	20	5 to 7 - 6 to 8	5 - 8	0.15	6.666	2.0	165
3	1 - 4	10	6 to 7	5 - 8	0.30	3.333	2.0	165
4	1 - 3	20	5 to 7 - 6 to 8	5 - 8	0.20	5.0	1.75	125
4	1 - 3	10	6 to 7	5 - 8	0.40	2.50	1.75	125
5	1 - 2	20	5 to 7 - 6 to 8	5 - 8	0.25	4.0	1.50	100
5	1 - 2	10	6 to 7	5 - 8	0.50	2.0	1.50	100
7.5	2 - 4	20	5 to 7 - 6 to 8	5 - 8	0.375	2.666	1.25	65
7.5	2 - 4	10	6 to 7	5 - 8	0.75	1.333	1.25	65



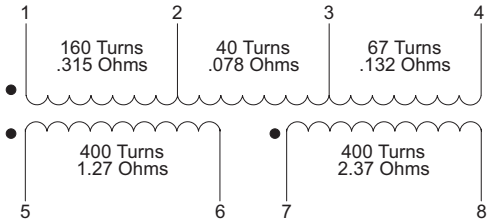
Style number: 7881A03G03

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
3	1 - 4	10	5 to 7 - 6 to 8	5 - 8	0.30	3.33	2.0	140
3	1 - 4	5	6 to 7	5 - 8	0.60	1.67	2.0	140
4	1 - 3	10	5 to 7 - 6 to 8	5 - 8	0.40	2.50	1.75	105
4	1 - 3	5	6 to 7	5 - 8	0.80	1.25	1.75	105
5	1 - 2	10	5 to 7 - 6 to 8	5 - 8	0.50	2.00	1.50	84
5	1 - 2	5	6 to 7	5 - 8	1.00	1.00	1.50	84



Style number: 7881A03G04

Input for Ratio A Output for Ratio B		Output for Ratio A Input for Ratio B						
Rated current amps	Leads	Rated current amps	Connect	Leads	Nominal Ratio A	Nominal Ratio B	Cont. thermal rating factor	Times normal 1 sec thermal
3	1 - 4	2.0	5 to 7 - 6 to 8	5 - 8	1.5	0.666	2.0	140
3	1 - 4	1.0	6 to 7	5 - 8	3.0	0.333	2.0	140
4	1 - 3	2.0	5 to 7 - 6 to 8	5 - 8	2.0	0.50	1.75	105
4	1 - 3	1.0	6 to 7	5 - 8	4.0	0.25	1.75	105
5	1 - 2	2.0	5 to 7 - 6 to 8	5 - 8	2.5	0.40	1.50	84
5	1 - 2	1.0	6 to 7	5 - 8	5.0	0.20	1.50	84
7.5	2 - 4	2.0	5 to 7 - 6 to 8	5 - 8	3.75	0.266	1.25	56
7.5	2 - 4	1.0	6 to 7	5 - 8	7.5	0.133	1.25	56



Selection guide

Ratio	Rating factor	Style number	Ratio	Rating factor	Style number	Ratio	Rating factor	Style number
3/.5	2.0	7881A02G01	6/1	2.0	7881A02G05	10/3	2.0	7881A03G03
3/1	2.0	7881A02G01	6/2	2.0	7881A02G05	10/4	1.5	7881A02G06
3/1	2.0	7881A03G04	6/4	2.0	7881A02G06	10/4	1.75	7881A03G02
3/2	2.0	7881A02G02	6/5	2.0	7881A02G03	10/4	1.75	7881A03G03
3/2	2.0	7881A03G04	7.5/.5	1.25	7881A02G01	10/5	1.33	7881A01G02
4/.5	1.75	7881A02G01	7.5/1	1.25	7881A02G01	10/5	1.5	7881A02G03
4/1	1.75	7881A02G01	7.5/1	1.25	7881A03G04	10/5	1.5	7881A03G02
4/1	1.75	7881A03G04	7.2/2	1.25	7881A02G02	10/5	1.5	7881A03G03
4/2	1.75	7881A02G02	7.2/2	1.25	7881A03G04	10/6	2.0	7881A02G03
4/2	1.75	7881A03G04	7.5/4	1.75	7881A02G02	10/7.5	1.25	7881A03G02
4/3	2.0	7881A02G02	8/.5	1.75	7881A02G04	10/8	1.75	7881A02G03
4/4	1.75	7881A02G02	8/1	1.75	7881A02G04	10/8	1.5	7881A02G06
4/4	2.0	7881A02G07	8/1	1.75	7881A02G05	10/10	1.5	7881A02G03
4.62/4	1.75	7881A02G07	8/2	1.75	7881A02G05	15/5	1.33	7881A01G03
4.8/4	1.75	7881A02G07	8/4	1.75	7881A02G06	16/4	2.0	7881A03G01
5/.5	1.5	7881A02G01	8/4	2.0	7881A02G07	16/5.33	1.75	7881A03G01
5/1	1.5	7881A02G01	8/4.62	1.75	7881A02G07	16/6.4	1.5	7881A03G01
5/1	1.5	7881A03G04	8/4.8	1.75	7881A02G07	16/10.66	1.25	7881A03G01
5/2	1.5	7881A02G02	8/5	1.75	7881A02G03	20/3	2.0	7881A03G02
5/2	1.5	7881A03G04	8/6	2.0	7881A02G06	20/4	1.75	7881A03G02
5/3	2.0	7881A03G03	8/8	1.75	7881A02G06	20/5	1.5	7881A03G02
5/4	1.5	7881A02G02	10/.5	1.5	7881A02G04	20/7.5	1.25	7881A03G02
5/4	1.75	7881A03G03	10/1	1.5	7881A02G04	32/4	2.0	7881A03G01
5/5	1.33	7881A01G01	10/1	1.5	7881A02G05	32/5.33	1.75	7881A03G01
5/5	1.5	7881A03G03	10/2	1.5	7881A02G05	32/6.4	1.5	7881A03G01
6/.5	2.0	7881A02G04	10/3	2.0	7881A03G02	32/10.66	1.25	7881A03G01
6/1	2.0	7881A02G04						

Additional styles available upon request. Contact your ABB sales representative or call +1-252-827-3212 for more information.

1VAP428501-DB Rev. B April 2013 (replaces 38-681)

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