



Bulletin 1411 Current Transformers

Catalog Numbers 1411-2xxx, 1411-8xxx, 1411-125, 1411-126, 1411-180, 1411-600, 1411-601, 1411-604, 1411-606, 1411-608, 1411-615, 1411-616, 1411-617, 1411-AL

Topic	Page
Summary of Changes	2
1411-2xxx Dimensions and Accuracy	3
1411-8xxx Dimensions and Accuracy	4
1411-125 Dimensions and Accuracy	6
1411-126 Dimensions and Accuracy	7
1411-180 Dimensions and Accuracy	8
1411-600 and 1411-601 Dimensions and Accuracy	10
1411-604 Dimensions and Accuracy	11
1411-606 and 1411-608 Dimensions and Accuracy	12
1411-615 Dimensions and Accuracy	13
1411-616 Dimensions and Accuracy	14
1411-617 Dimensions and Accuracy	15
1411-AL Dimensions and Accuracy	16
Agency Certifications	16
Additional Resources	17

Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Added information for Higher System Voltage Applications for Low Voltage Window Type Current Transformers.	2



ATTENTION: Proper safety precautions must be followed during installation by a trained electrician. Never install while bus is energized. The current transformer must have its secondary terminals that are short circuited or the burden that is connected, before energizing the primary circuit.

Insulation Level

600V per IEEE/ANSI C57.13, 10kV BIL full wave

Higher System Voltage Applications for Low Voltage Window Type Current Transformers

Low voltage window-type current transformers (CT) (600V Class per IEEE/ANSI C57.13 Standard, the BIL level of which is 10 kV may be used on higher voltage circuits, up to 38 kV in switch cubicles or even up to 245 kV in High-voltage breakers, power transformers, or GIS applications, with a fully insulated conductor as follows:

Type of Primary Conductor	Max. Normal System Voltage (L-L)
Bar or cable, no insulation.	600V
Bar or cable, insulated for system voltage.	5000V
Cable, fully insulated for system voltage and shielded, the shield being grounded on one side of current transformer only.	above 2500V
Bar, insulated for system voltage and centered in current transformer window opening, and when impulse, applied voltage and partial discharge tests prove the arrangement satisfactory.	above 2500V
Bushing, insulated for system voltage and centered in current transformer window opening, and when impulse, applied voltage and partial discharge tests prove the arrangement satisfactory.	above 2500V

IMPORTANT Where a low voltage window type CT is intended for use in a higher voltage application, you are responsible to confirm that these conditions are met and the necessary precautions taken.

1411-2xxx Dimensions and Accuracy

Figure 1 - 1411-2xxx Dimensions (listed in inches)

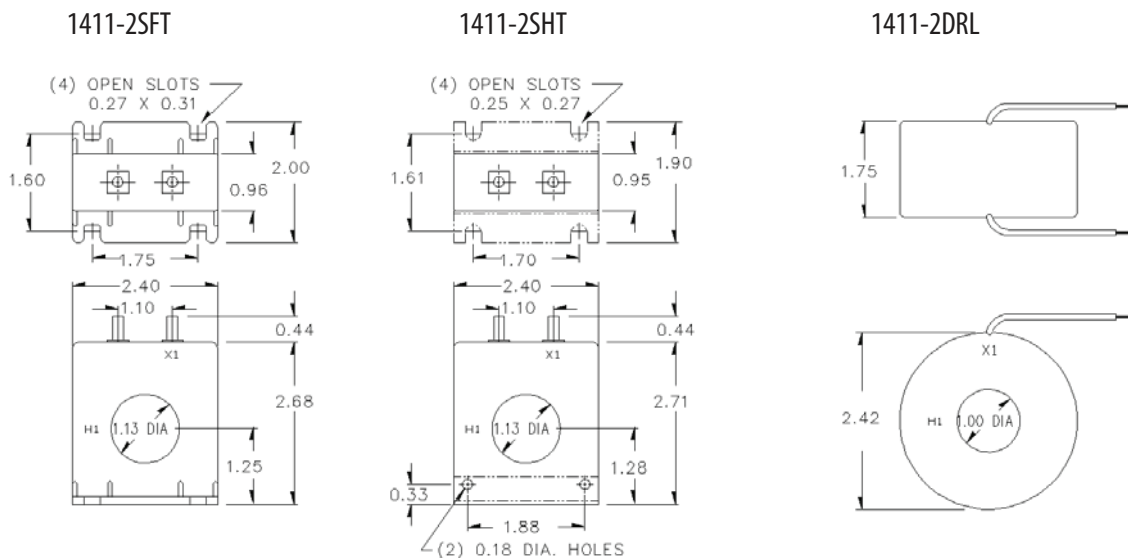


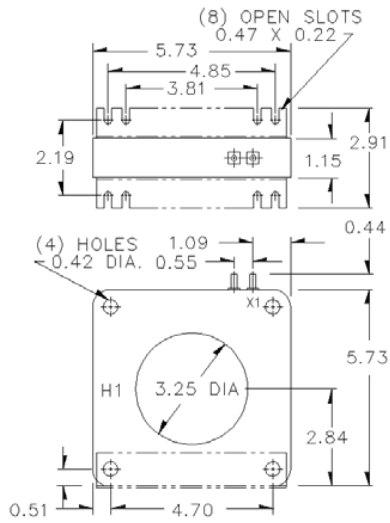
Table 1 - 1411-2xxx Accuracy

Cat. No.	Current Ratio, A	Models 2SFT, 2SHT		Model 2DRL	
		Accuracy at 60 Hz	Burden VA at 60 Hz	Accuracy at 60 Hz	Burden VA at 60 Hz
1411-2 ⁽¹⁾ -500	50:5	±3%	1.5	±2%	1.5
1411-2 ⁽¹⁾ -800	80:5	±2%	2.0	±2%	4.0
1411-2 ⁽¹⁾ -101	100:5	±1%	2.0	±1%	5.0
1411-2 ⁽¹⁾ -151	150:5	±1%	4.0	±1%	8.0
1411-2 ⁽¹⁾ -201	200:5	±1%	4.0	±1%	10.0
1411-2 ⁽¹⁾ -301	300:5	±1%	8.0	±1%	15.0

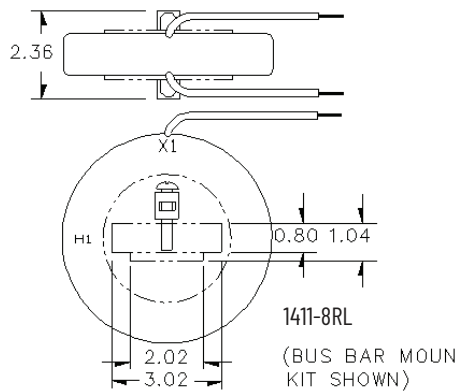
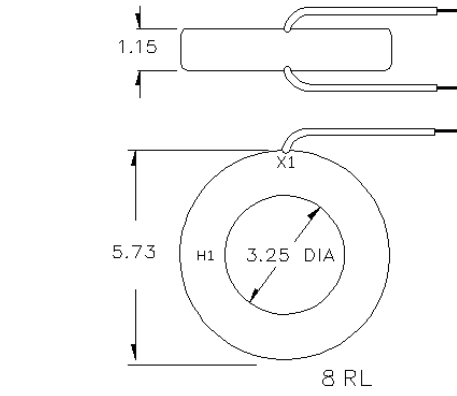
(1) When ordering, prefix Cat No. with model designation required, for example, 1411-2SFT-301 or 1411-2DRL-301.

1411-8xxx Dimensions and Accuracy

Figure 2 - 1411-8xxx Dimensions (listed in inches)



1411-8SHT



EXCITATION CURVE

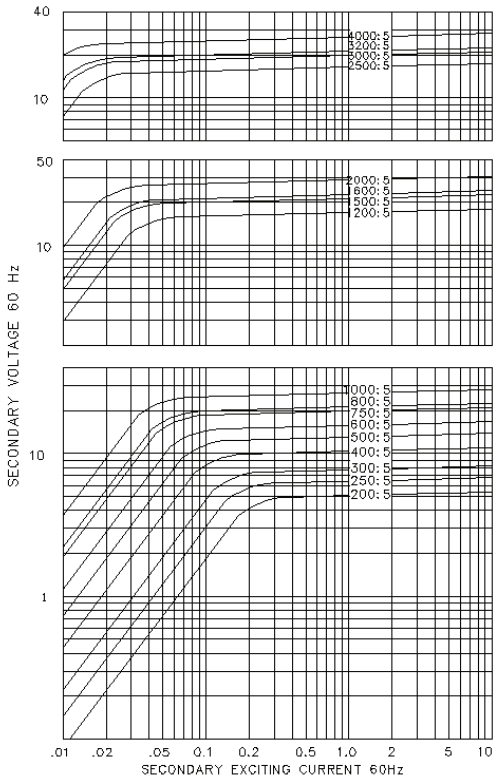


Table 2 - 1411-8xxx Accuracy

Cat. No.	Current Ratio, A	VA for $\pm 1\%$ Class	ANSI Metering Class at 60 Hz					Secondary Winding Resistance (ohms at 75 °C (167 °F))	Continuous Thermal Rating Factor	
			B0.1	B0.2	B0.5	B0.9	B1.8		at 30 °C (86 °F)	at 55 °C (131 °F)
1411-8 ⁽¹⁾ -201	200:5	5.0	1.2	1.2	2.4	4.8	4.8	0.030	2.0	2.0
1411-8 ⁽¹⁾ -301	300:5 ⁽²⁾	15.0	0.6	0.6	1.2	2.4	2.4	0.049	2.0	2.0
1411-8 ⁽¹⁾ -401	400:5 ⁽²⁾	25.0	0.3	0.3	0.6	1.2	2.4	0.079	2.0	1.5
1411-8 ⁽¹⁾ -601	600:5 ⁽²⁾	50.0	0.3	0.3	0.6	0.6	1.2	0.147	1.5	1.33
1411-8 ⁽¹⁾ -102	1000:5 ⁽²⁾	75.0	0.3	0.3	0.3	0.6	0.6	0.246	1.33	1.0
1411-8 ⁽¹⁾ -162	1600:5 ⁽²⁾	100.0	0.3	0.3	0.3	0.3	0.6	0.337	1.33	0.8
1411-8 ⁽¹⁾ -202	2000:5 ⁽²⁾	120.0	0.3	0.3	0.3	0.3	-	0.422	1.0	0.8
1411-8 ⁽¹⁾ -302	3000:5	60.0	0.3	0.3	0.3	0.3	-	0.526	1.0	0.8
1411-8 ⁽¹⁾ -402	4000:5	80.0	0.3	0.3	0.3	0.3	-	0.973	0.8	0.6

(1) When ordering, prefix catalog number with model designation required, for example, 1411-8SHT-201 or 1411-8RL-301.

(2) Approved for revenue metering by Industry Canada No. T-188.

1411-125 Dimensions and Accuracy

Figure 3 - 1411-125 Dimensions (listed in inches)

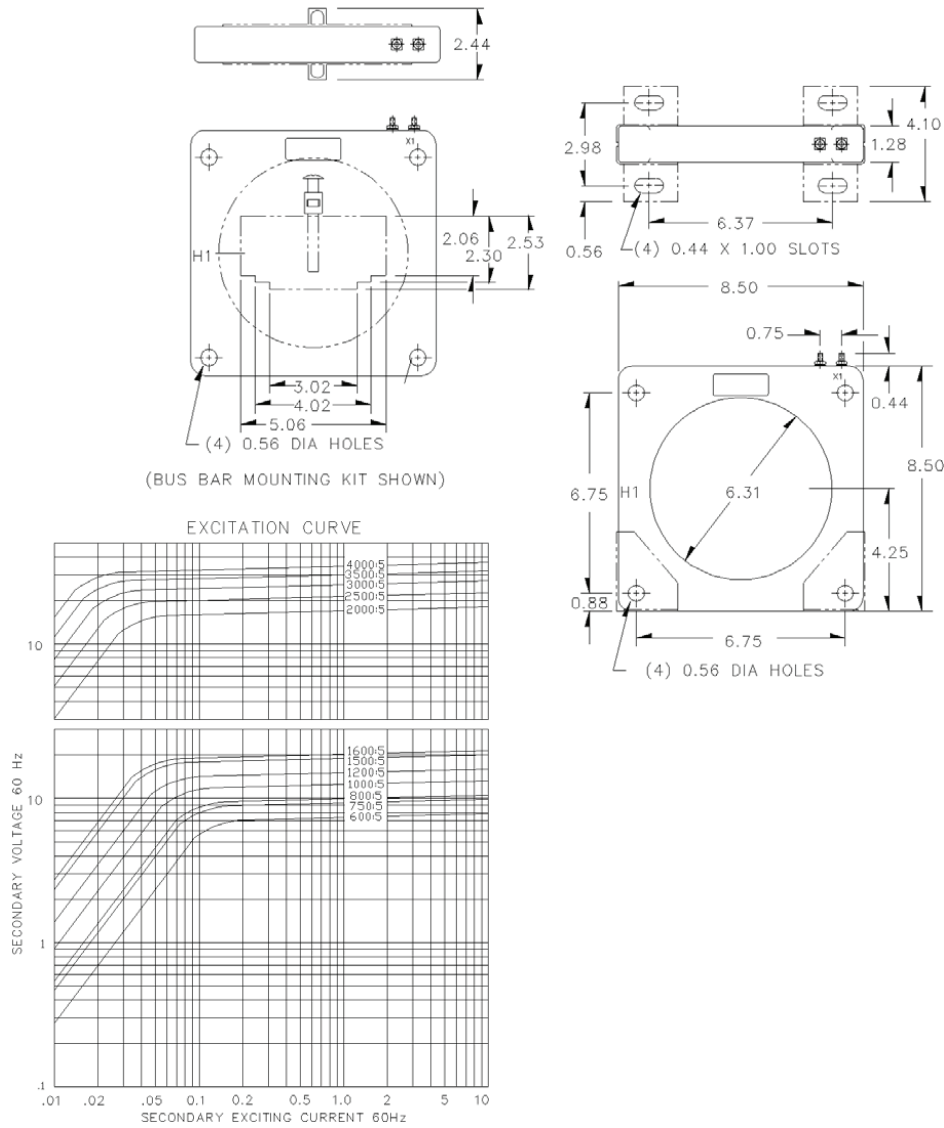


Table 3 - 1411-125 Accuracy

Cat. No.	Current Ratio, A	ANSI Metering Class at 60 Hz					Secondary Winding Resistance (ohms at 75 °C (167 °F))	Continuous Thermal Rating Factor	
		B0.1	B0.2	B0.5	B0.9	B1.8		at 30 °C (86 °F)	at 55 °C (131 °F)
1411-125-102	1000:5	0.3	0.3	0.3	0.6	1.2	0.187	1.6	1.33
1411-125-162	1600:5	0.3	0.3	0.3	0.3	0.6	0.304	1.6	1.33
1411-125-202	2000:5	0.3	0.3	0.3	0.3	0.6	0.280	1.6	1.0
1411-125-302	3000:5	0.3	0.3	0.3	0.3	0.6	0.421	1.33	1.0
1411-125-402	4000:5	0.3	0.3	0.3	0.3	0.3	0.696	1.0	0.8

1411-126 Dimensions and Accuracy

Figure 4 - 1411-126 Dimensions (listed in inches)

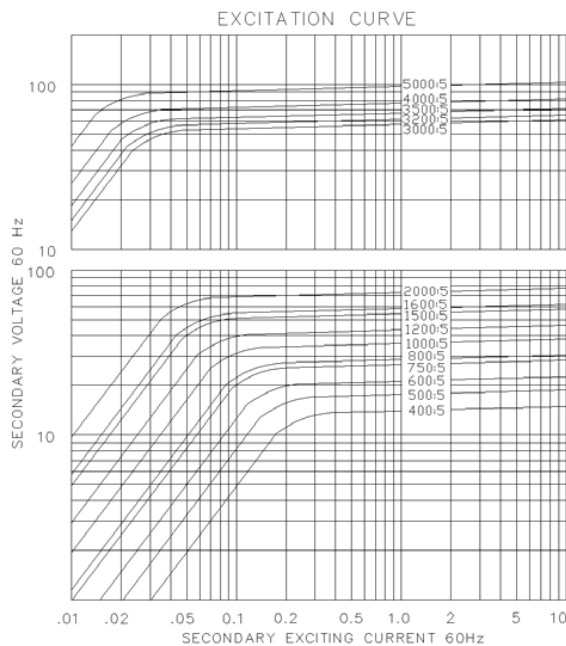
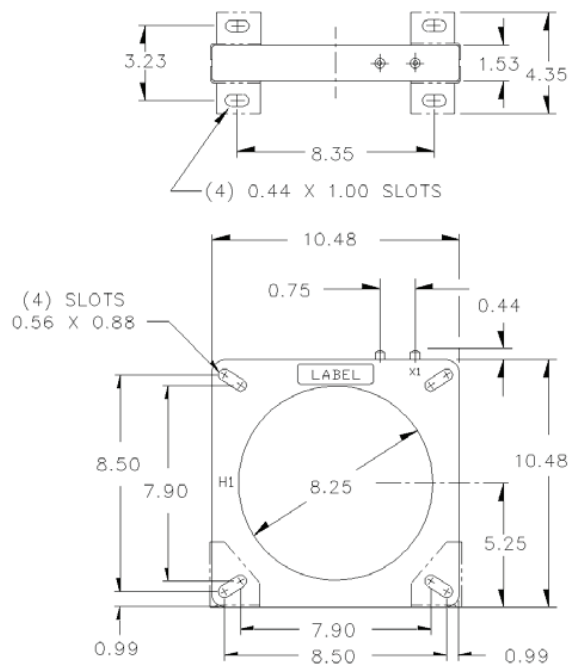


Table 4 - 1411-126 Accuracy

Cat. No.	Current Ratio, A	VA for ±1% Class	ANSI Metering Class at 60 Hz					Secondary Winding Resistance (ohms at 75 °C (167 °F))	Continuous Thermal Rating Factor	
			B0.1	B0.2	B0.5	B0.9	B1.8		at 30 °C (86 °F)	at 55 °C (131 °F)
1411-126 -401	400:5	4.0	0.6	1.2	2.4	2.4	4.8	0.116	2.0	2.0
1411-126-601	600:5	10.0	0.6	0.6	1.2	1.2	2.4	0.173	2.0	2.0
1411-126-102	1000:5	25.0	0.3	0.3	0.6	0.6	1.2	0.289	2.0	1.5
1411-126-162	1600:5	50.0	0.3	0.3	0.3	0.3	0.6	0.462	1.5	1.0
1411-126-202	2000:5	60.0	0.3	0.3	0.3	0.3	0.3	0.578	1.33	1.0
1411-126 -302	3000:5	90.0	0.3	0.3	0.3	0.3	0.3	0.722	1.33	1.0
1411-126-402	4000:5	126.0	0.3	0.3	0.3	0.3	0.3	0.962	1.0	0.8
1411-126-602	6000:5	140.0	0.3	0.3	0.3	0.3	0.3	1.278	1.0	0.8

1411-180 Dimensions and Accuracy

Figure 5 - 1411-180 Dimensions (listed in inches)

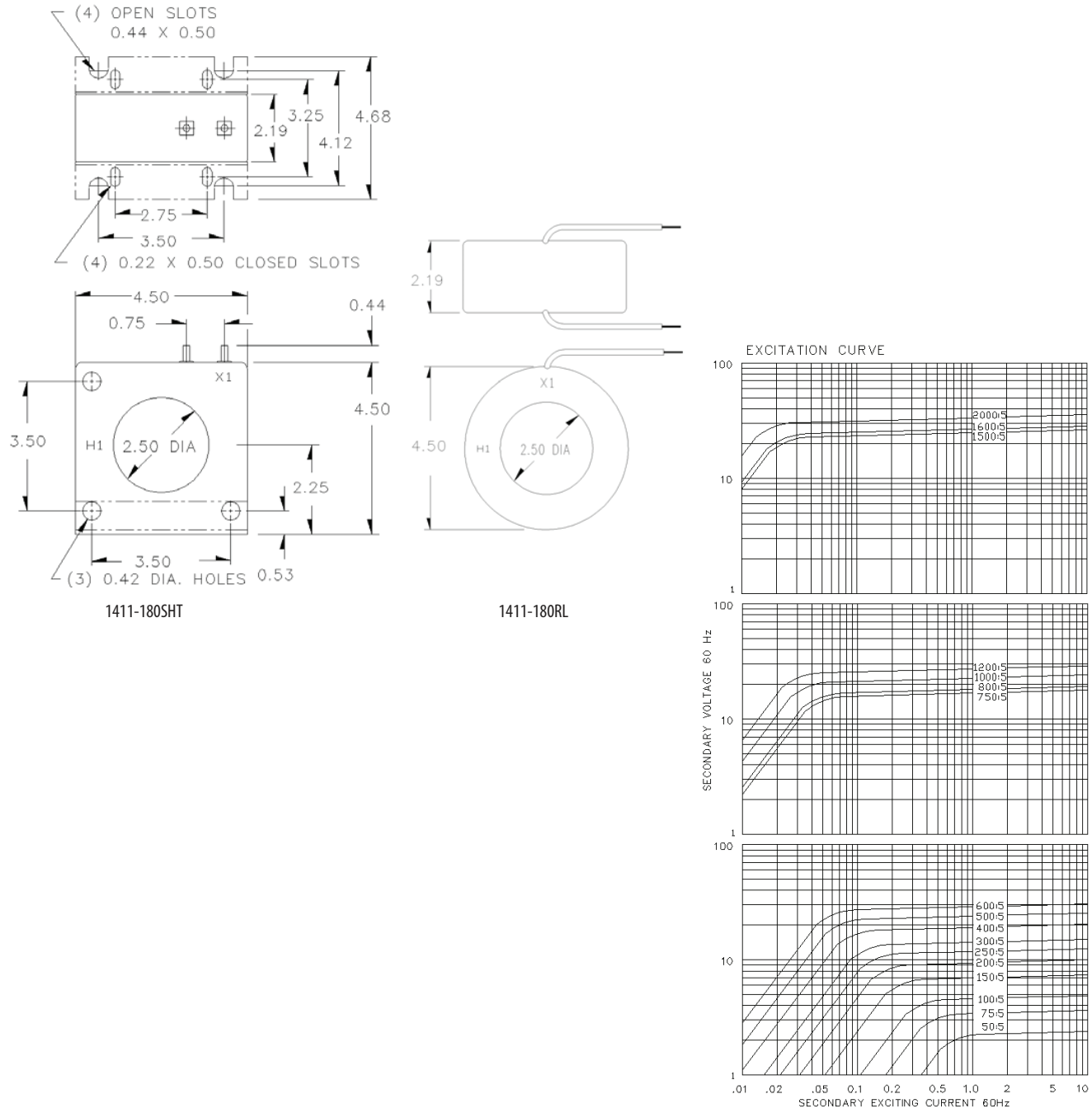


Table 5 - 1411-180 Accuracy

Cat. No.	Current Ratio, A	VA for $\pm 1\%$ Class	ANSI Metering Class at 60 Hz					Secondary Winding Resistance (ohms at 75 °C (167 °F))	Continuous Thermal Rating	
			B0.1	B0.2	B0.5	B0.9	B1.8		at 30 °C (86 °F)	at 55 °C (131 °F)
1411-180 ⁽¹⁾ -500	50:5	1.5	2.4	-	-	-	-	0.009	1.33	1.0
1411-180 ⁽¹⁾ -101	100:5	2.5	1.2	2.4	4.8	-	-	0.021	1.33	1.0
1411-180 ⁽¹⁾ -151	150:5 ⁽²⁾	5.0	0.6	1.2	2.4	4.8	-	0.038	1.33	1.0
1411-180 ⁽¹⁾ -201	200:5 ⁽²⁾	12.5	0.6	0.6	1.2	2.4	-	0.051	1.33	1.0
1411-180 ⁽¹⁾ -301	300:5 ⁽²⁾	25.0	0.3	0.3	0.6	1.2	2.4	0.076	1.33	1.0
1411-180 ⁽¹⁾ -401	400:5 ⁽²⁾	50.0	0.3	0.3	0.3	0.6	1.2	0.102	1.33	1.0
1411-180 ⁽¹⁾ -601	600:5 ⁽²⁾	50.0	0.3	0.3	0.3	0.6	1.2	0.177	1.33	1.0
1411-180 ⁽¹⁾ -102	1000:5 ⁽²⁾	100.0	0.3	0.3	0.3	0.3	0.6	0.253	1.33	1.0
1411-180 ⁽¹⁾ -162	1600:5 ⁽²⁾	175.0	0.3	0.3	0.3	0.3	0.3	0.359	1.25	1.0
1411-180 ⁽¹⁾ -202	2000:5 ⁽²⁾	200.0	0.3	0.3	0.3	0.3	0.3	0.449	1.0	0.75

(1) When ordering, prefix catalog number with model designation required, for example, 1411-180RL-301 or 1411-180SHT-301.

(2) Approved for revenue metering by Industry Canada. No. T-189.

1411-600 and 1411-601 Dimensions and Accuracy

Figure 6 - 1411-600 and 1411-601 Dimensions (listed in inches)

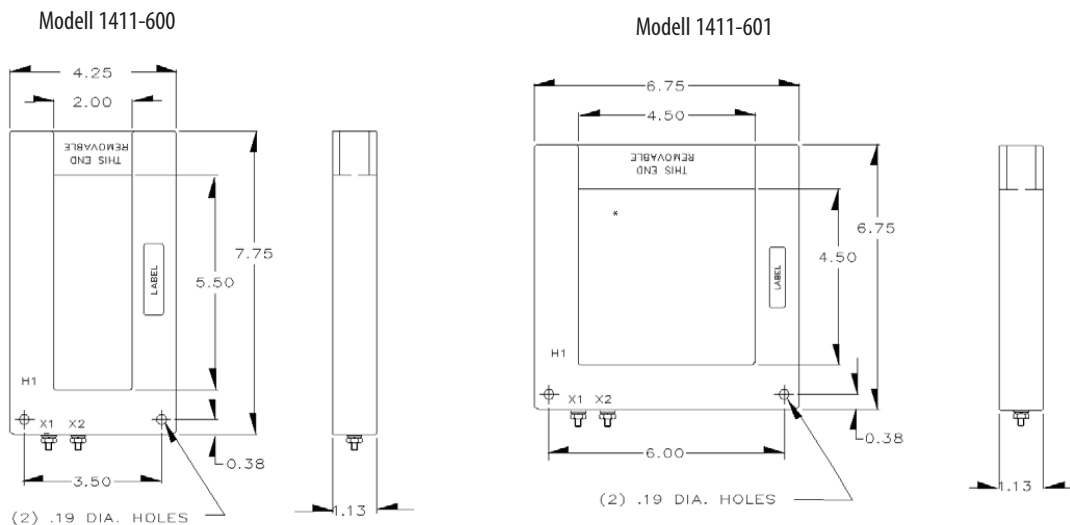


Table 6 - 1411-600 Accuracy

Cat. No.	Current Ratio, A	VA at 1% Class	ANSI Metering Class at 60 Hz		
			B0.1	B0.2	B0.5
1411-600-301	300:5	2.0	2.4	—	—
1411-600-401	400:5	1.5	2.4	4.8	—
1411-600-601	600:5	2.5	2.4	2.4	—
1411-600-102	1000:5	7.5	1.2	1.2	2.4
1411-600-162	1600:5	20.0	0.6	0.6	1.2
1411-600-202	2000:5	30.0	0.6	0.6	0.6

Table 7 - 1411-601 Accuracy

Cat. No.	Current Ratio, A	VA at 1% Class	ANSI Metering Class at 60 Hz		
			B0.1	B0.2	B0.5
1411-601-301	300:5	2.0	2.4	—	—
1411-601-401	400:5	1.0	4.8	—	—
1411-601-601	600:5	2.0	2.4	—	—
1411-601-102	1000:5	5.0	1.2	1.2	4.8
1411-601-162	1600:5	15.0	1.2	1.2	1.2
1411-601-202	2000:5	20.0	0.6	0.6	1.2

1411-604 Dimensions and Accuracy

Figure 7 - 1411-604 Dimensions (listed in inches)

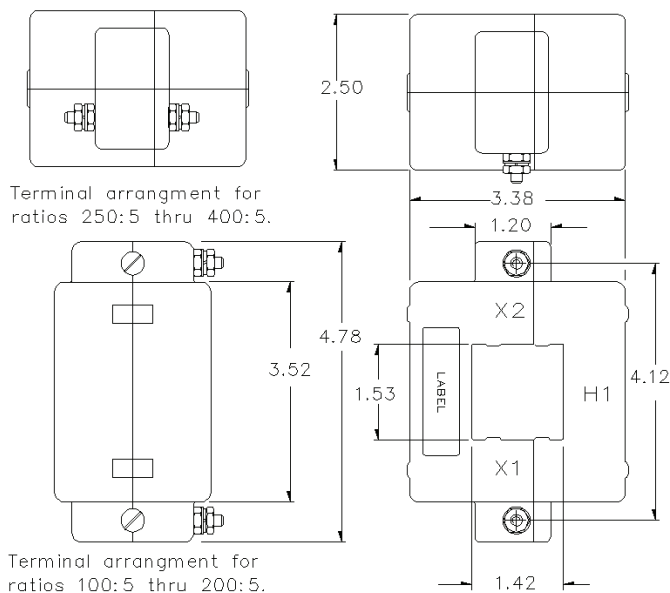


Table 8 - 1411-604 Accuracy

Cat. No.	Current Ratio, A	Burden VA	Accuracy
1411-604-101	100:5	1	±5%
1411-604-151	150:5	1	±4%
1411-604-201	200:5	1	±2%
1411-604-301	300:5	2	±1.5%
1411-604-401	400:5	2.5	±1.5%

1411-606 and 1411-608 Dimensions and Accuracy

Figure 8 - 1411-606 and 1411-608 Dimensions (listed in inches)

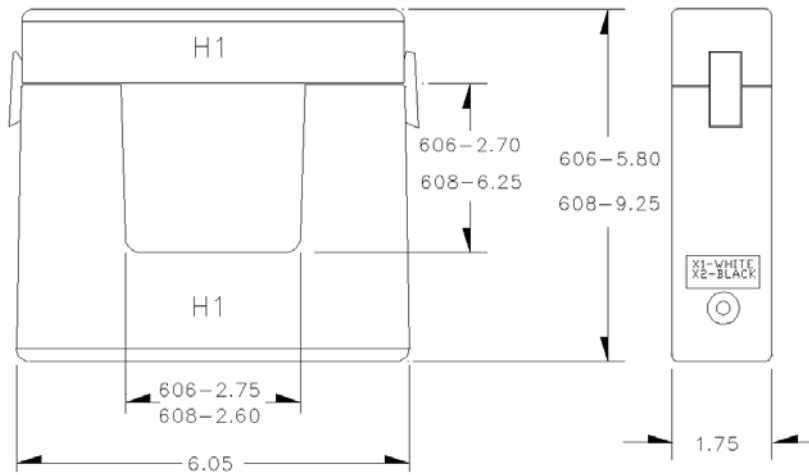


Table 9 - 1411-606 Accuracy

Cat. No.	Current Ratio	Burden, VA	Accuracy at 60 Hz
1411-606-201	200:5	2.5	2%
1411-606-301	300:5	3.5	1%
1411-606-401	400:5	5	1%
1411-606-601	600:5	8	1%
1411-606-102	1000:5	15	1%
1411-606-122	1200:5	20	1%

Table 10 - 1411-608 Accuracy

Cat. No.	Current Ratio, A	Burden, VA	Accuracy
1411-608-601	600:5	8	1%
1411-608-801	800:5	12	1%
1411-608-102	1000:5	13	1%
1411-608-162	1600:5	27	1%
1411-608-202	2000:5	33	1%
1411-608-302	3000:5	50	1%
1411-608-322	3200:5	54	1%

1411-615 Dimensions and Accuracy

Figure 9 - 1411-615 Dimensions (listed in inches)

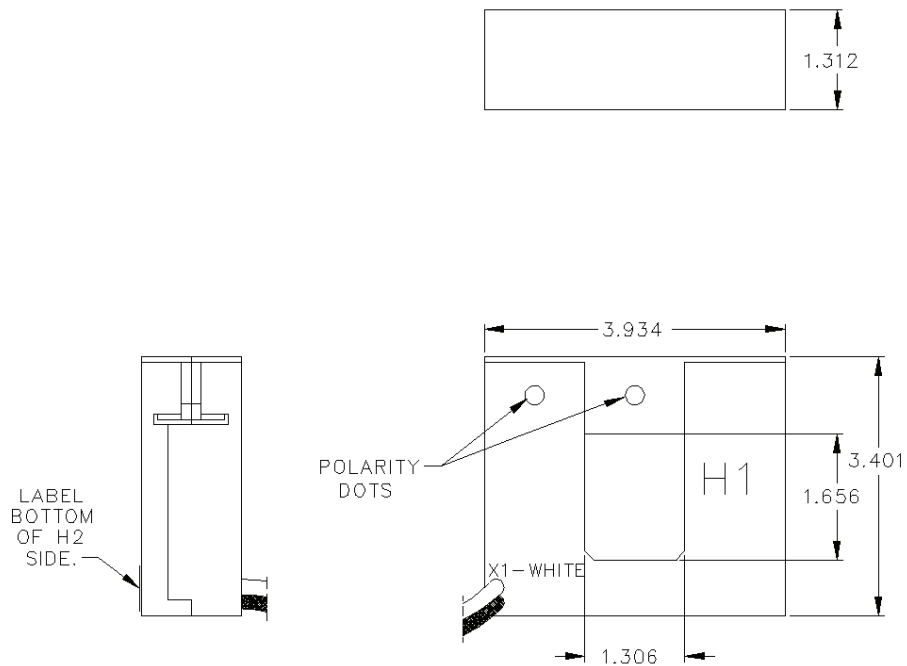


Table 11 - 1411-615 Accuracy

Cat. No.	Current Ratio, A	Burden, VA	Accuracy
1411-615-101	100:5	1	5%
1411-615-201	200:5	2	3%
1411-615-301	300:5	3.5	1%
1411-615-401	400:5	8.5	1%

1411-616 Dimensions and Accuracy

Figure 10 - 1411-616 Dimensions (listed in inches)

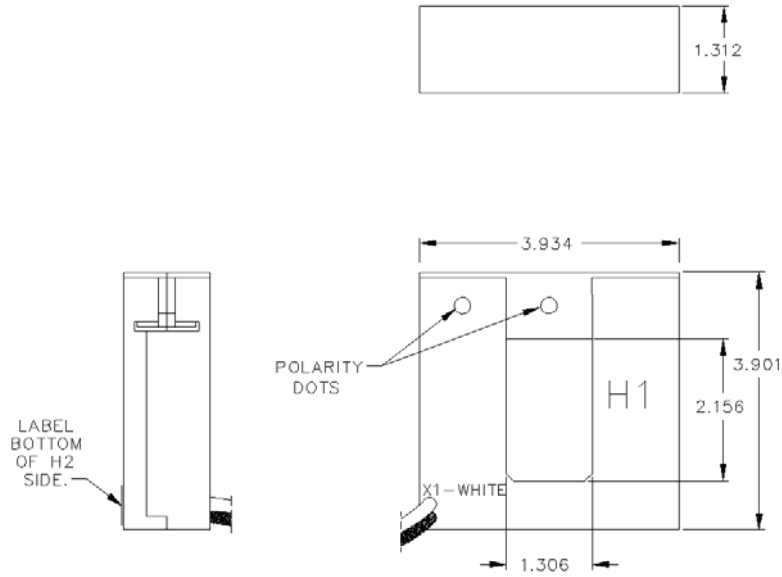


Table 12 - 1411-616 Accuracy

Cat. No.	Current Ratio, A	Burden, VA	Accuracy
1411-616-201	200:5	2	3%
1411-616-401	400:5	5	1%
1411-616-801	800:5	5	1%

1411-617 Dimensions and Accuracy

Figure 11 - 1411-617 Dimensions (listed in inches)

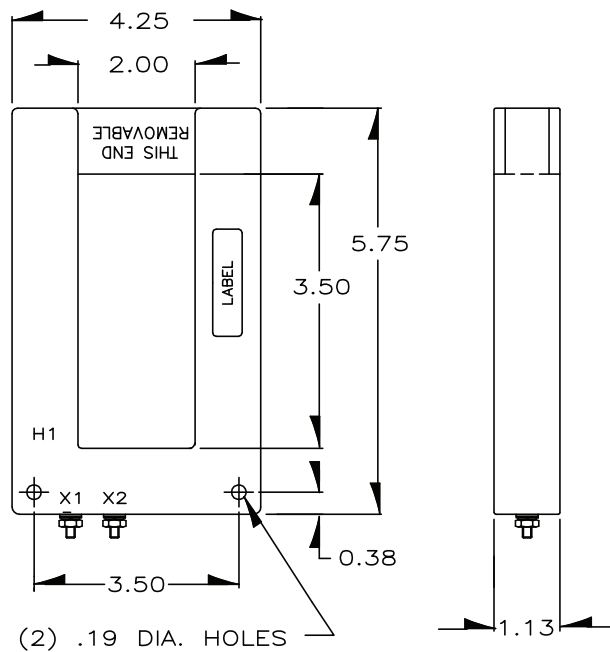


Table 13 - 1411-617 Accuracy

Cat. No.	Current Ratio, A	VA at 1% Class	ANSI Metering Class		
			B0.1	B0.2	B0.5
1411-617-401	400:5	1.5	2.4	4.8	–
1411-617-801	800:5	5.0	1.2	1.2	2.4
1411-617-102	1000:5	7.5	1.2	1.2	2.4
1411-617-122	1200:5	15.0	0.6	1.2	1.2

1411-AL Dimensions and Accuracy

Figure 12 - 1411-AL Dimensions (listed in inches)

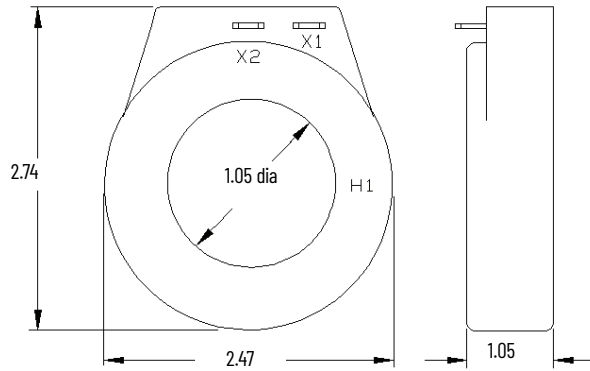


Table 14 - 1411-AL Accuracy

Cat. No.	Current Ratio, A	Accuracy at 60 Hz	Burden VA at 60 Hz
1411-AL-500	50:5	±3%	1.5
1411-AL-800	80:5	±2%	2.0
1411-AL-101	100:5	±1%	2.0
1411-AL-151	150:5	±1%	4.0
1411-AL-201	200:5	±1%	4.0
1411-AL-301	300:5	±1%	8.0
1411-AL-401	400:5	±1%	10.0

Agency Certifications

Cat. No.	1411-2xxx	1411-8xxx	1411-125	1411-126	1411-180	1411-600 and 1411-601	1411-604	1411-606	1411-608	1411-615	1411-616	1411-617	1411-AL
CSA	X	X	X	X	X	X	X	X	—	—	—	—	—
UR	X	X	X	X	X	X	X	X	X	X	X	X	X
ANSI/IEEE C57.13	X	X	X	X	X	X	X	X	X	X	X	X	X
IEC 44-1	X	X	X	X	X	X	X	X	X	X	X	X	X

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
Bulletin 1411 Current Transformer Selection Matrix, publication 1411-SG001	Provides selection information for the current transformers.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc





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