Allen-Bradley

# Bulletin 1411 Current Transformers

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


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## Summary of Changes

This publication contains new and updated information as indicated in the following table.

**Table 1 - Summary of Changes**

| Topic | Page |
|---|---|
| Updated available catalog numbers. | Throughout |

**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.

## 1411-2*xxx* Dimensions and Accuracy

**Figure 1 - 1411-2*xxx* Dimensions**

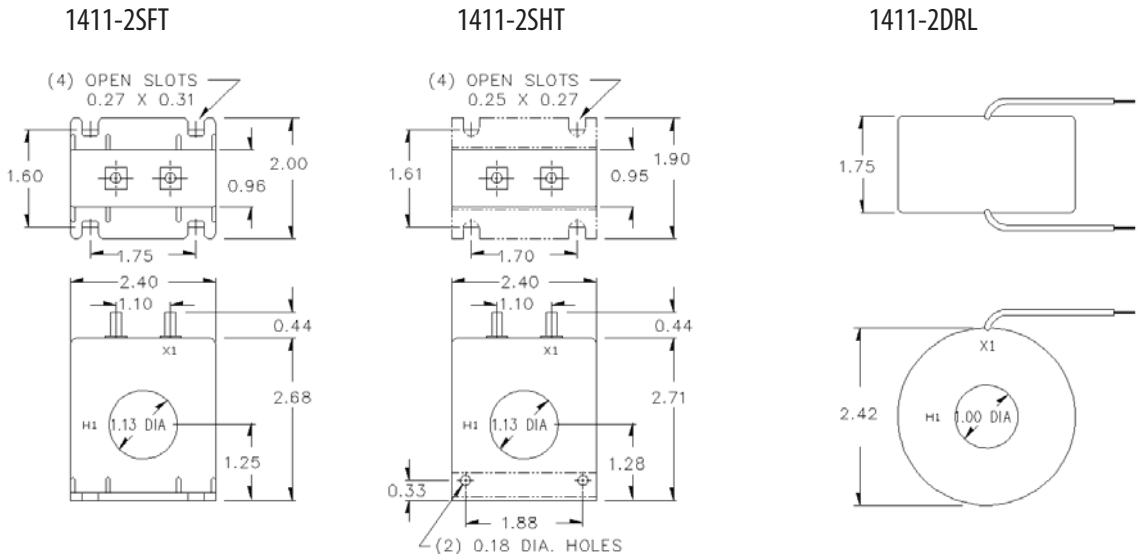


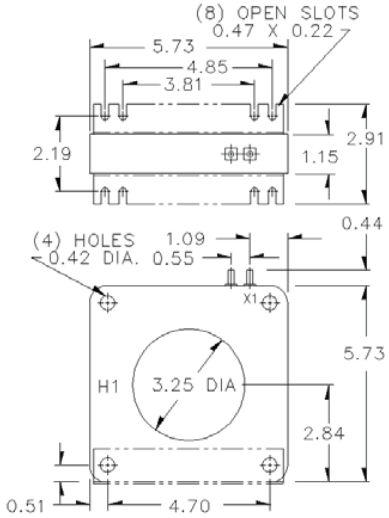

**Table 2 - 1411-2*xxx* Accuracy**

| Cat. No. | Current Ratio | 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 |

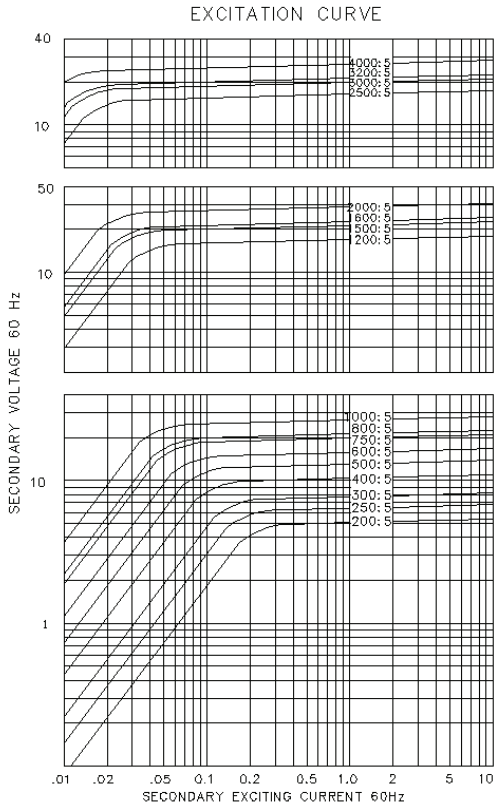
(1) When ordering, prefix Cat No. with model designation required, for example, 1411-2SFT-301 or 1411-2DRL-301.

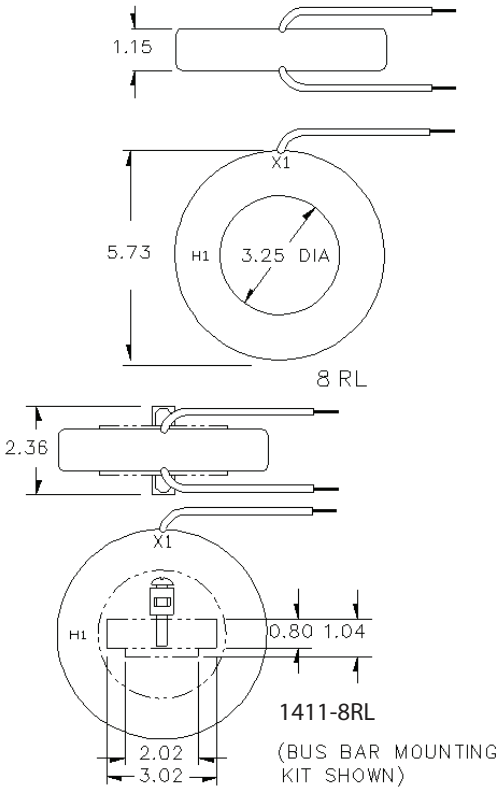
## 1411-8*xxx* Dimensions and Accuracy

**Figure 2 - 1411-8*xxx* Dimensions**




1411-8SHT




1411-8RL

(BUS BAR MOUNTING KIT SHOWN)

**Table 3 - 1411-8*xxx* Accuracy**

| Cat. No. | Current Ratio | 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) |
| 1411-8(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**

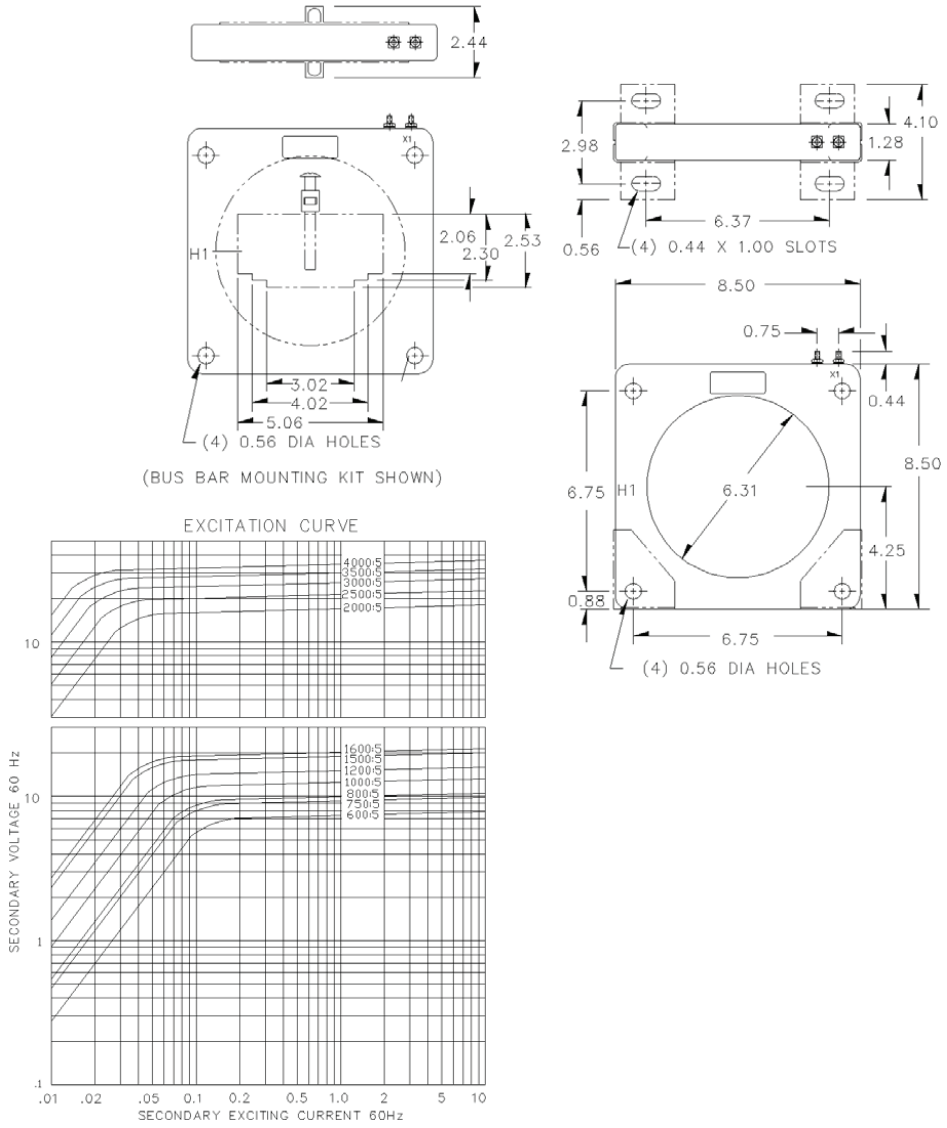
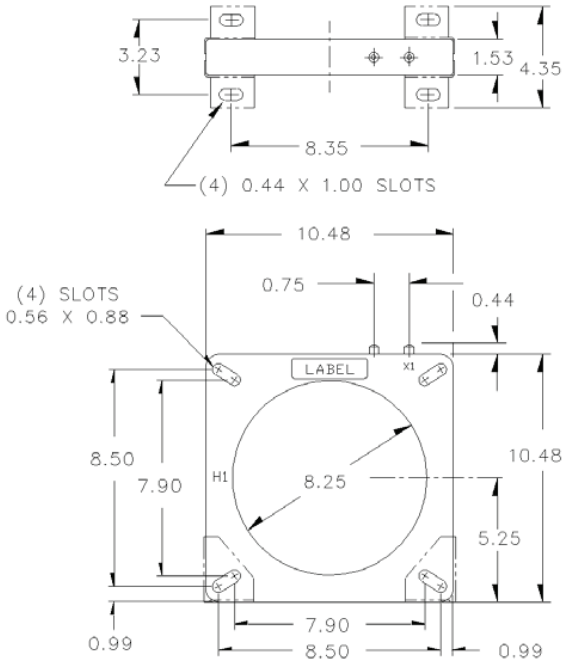



**Table 4 - 1411-125 Accuracy**

| Cat. No. | Current Ratio | 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**



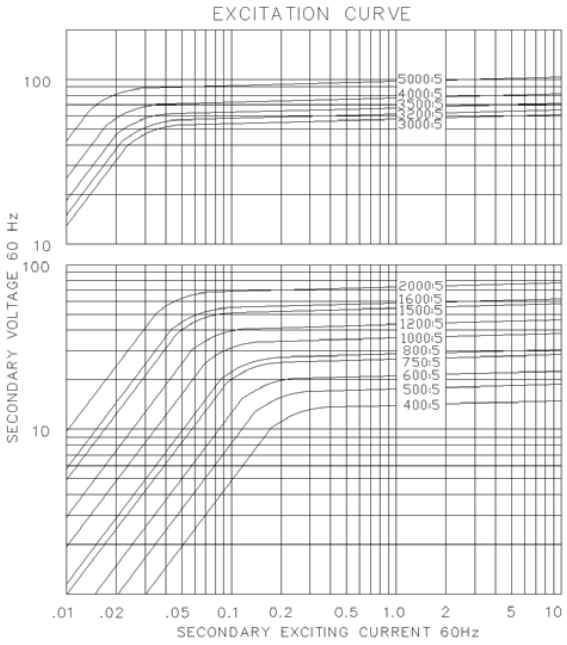
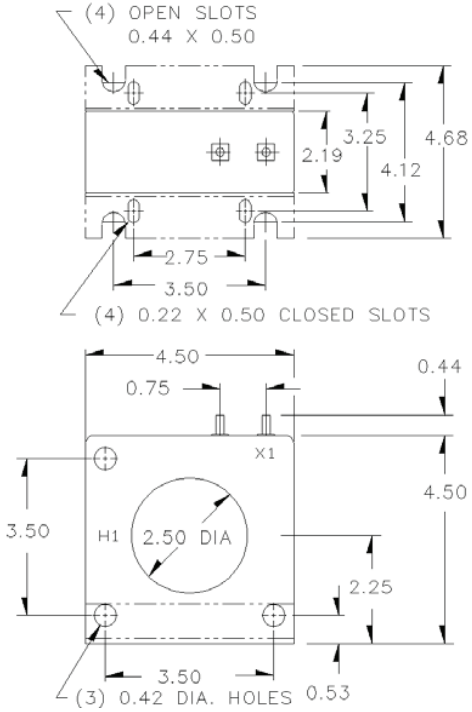




**Table 5 - 1411-126 Accuracy**

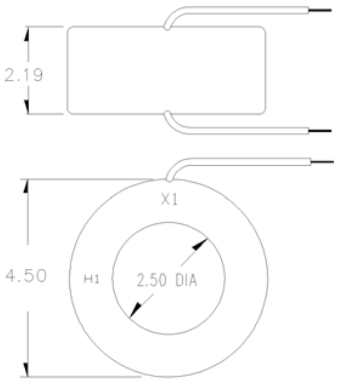
| Cat. No. | Current Ratio | VA for ±1% Class | ANSI Metering Class at 60 Hz | | | | | Secondary Winding Resistance (ohms at 75 °C (167 °F)) | Continuous Thermal Rating Factor | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | B0.1 | B0.2 | B0.5 | B0.9 | B1.8 | | at 30 °C (86 °F) | at 55 °C (131 °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**




1411-180SHT




1411-180RL

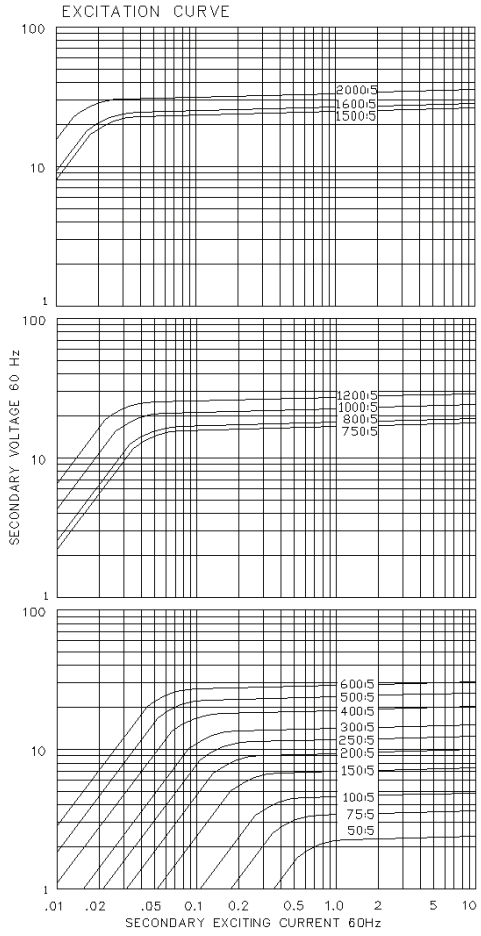


**Table 6 - 1411-180 Accuracy**

| Cat. No. | Current Ratio | VA for ±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**

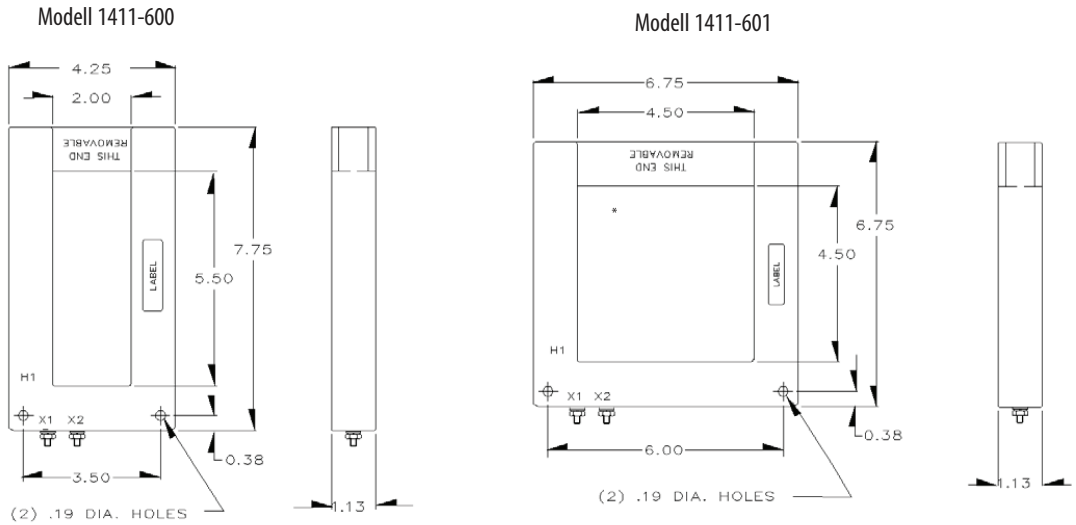



**Table 7 - 1411-600 Accuracy**

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

**Table 8 - 1411-601 Accuracy**

| Cat. No. | Current Ratio | 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 A | 1.0 | 4.8 | - | - |
| 1411-601-601 | 600:5 A | 2.0 | 2.4 | | - |
| 1411-601-102 | 1000:5 A | 5.0 | 1.2 | 1.2 | 4.8 |
| 1411-601-162 | 1600:5 A | 15.0 | 1.2 | 1.2 | 1.2 |
| 1411-601-202 | 2000:5 A | 20.0 | 0.6 | 0.6 | 1.2 |

## 1411-604 Dimensions and Accuracy

**Figure 7 - 1411-604 Dimensions**

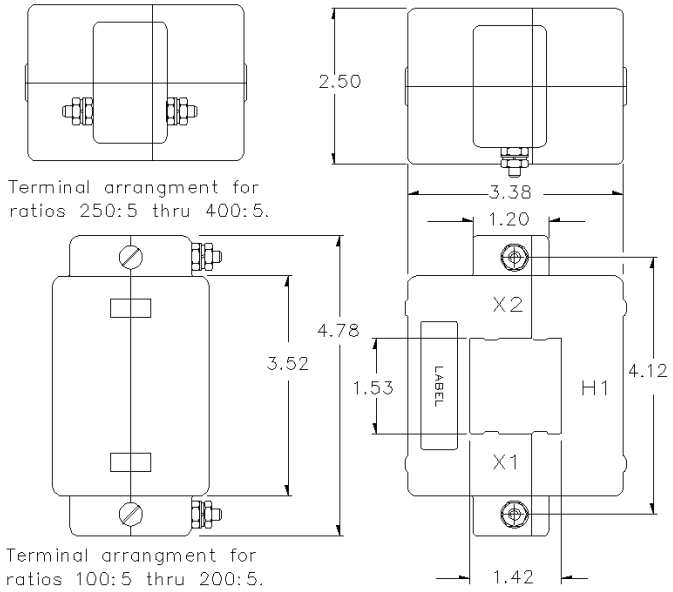



**Table 9 - 1411-604 Accuracy**

| Cat. No. | Current Ratio | 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**

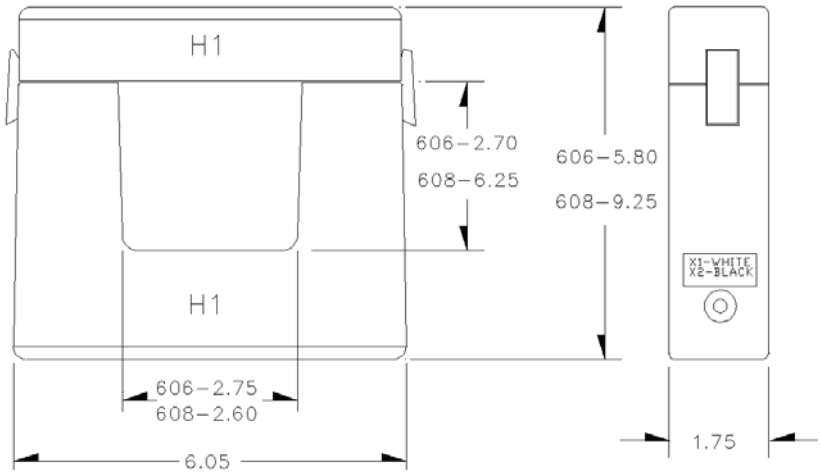



**Table 10 - 1411-606 Accuracy**

| 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 11 - 1411-608 Accuracy**

| Cat. No. | Current Ratio | 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**

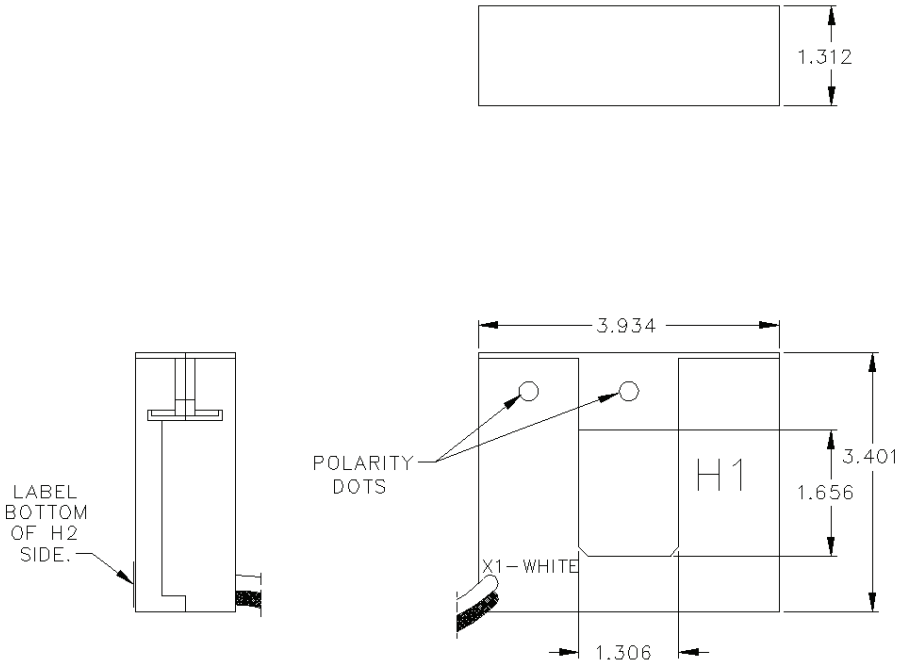



**Table 12 - 1411-615 Accuracy**

| Cat. No. | Current Ratio | 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**

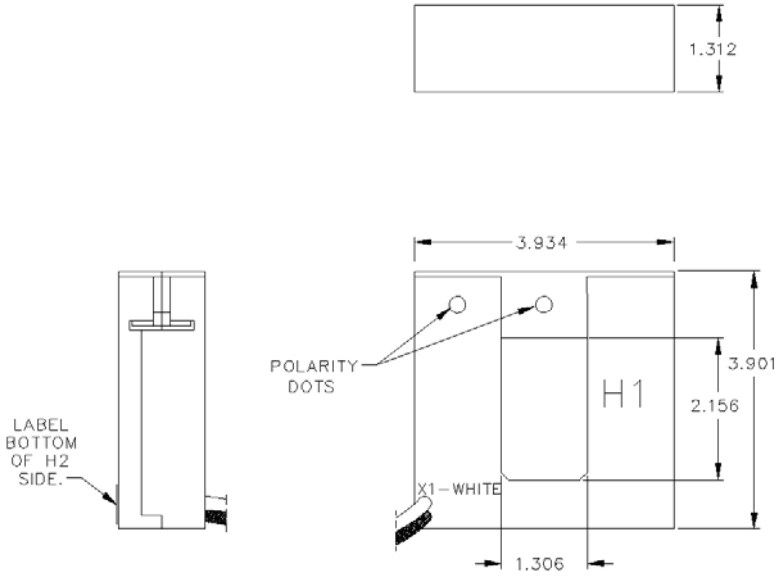



**Table 13 - 1411-616 Accuracy**

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

## 1411-617 Dimensions and Accuracy

**Figure 11 - 1411-617 Dimensions**

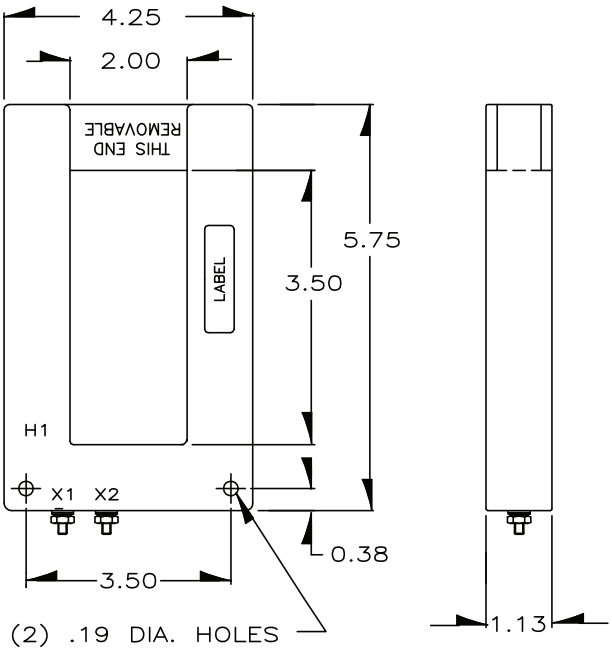



**Table 14 - 1411-617 Accuracy**

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

## 1411-AL Dimensions and Accuracy

**Figure 12 - 1411-AL Dimensions**

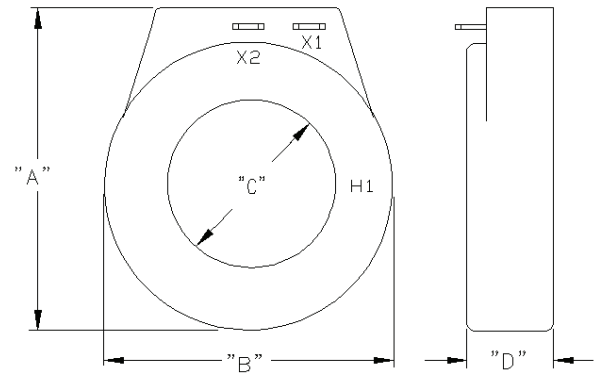



**Table 15 - 1411-AL Accuracy**

| Cat. No. | Current Ratio | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LR89403 | X | X | X | X | X | X | X | X | | | | | |
| E93779 | 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.

| 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, http://www.rockwellautomation.com/global/certification/overview.page | Provides declarations of conformity, certificates, and other certification details. |

You can view or download publications at http://www.rockwellautomation.com/global/literature-library/overview.page. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Notes:

## Rockwell Automation Support

Use the following resources to access support information.

| | | |
|---|---|---|
| **Technical Support Center** | Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates. | www.rockwellautomation.com/knowledgebase |
| **Local Technical Support Phone Numbers** | Locate the phone number for your country. | www.rockwellautomation.com/global/support/get-support-now.page |
| **Direct Dial Codes** | Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer. | www.rockwellautomation.com/global/support/direct-dial.page |
| **Literature Library** | Installation Instructions, Manuals, Brochures, and Technical Data. | www.rockwellautomation.com/literature |
| **Product Compatibility and Download Center (PCDC)** | Get help determining how products interact, check features and capabilities, and find associated firmware. | www.rockwellautomation.com/global/support/pcdc.page |

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Rockwell Automation maintains current product environmental information on its website at http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page.

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