

Donut Current Transformers



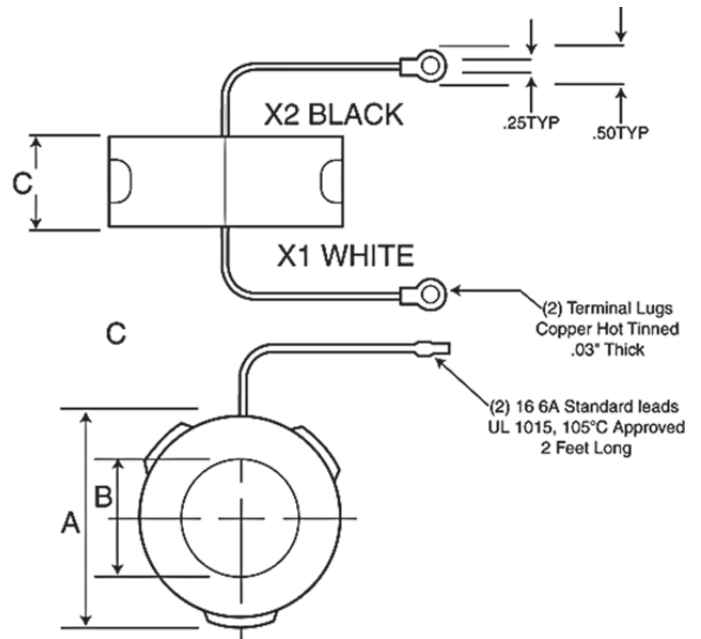
- Meets A.S.A C57.13 Standard
- Flexible leads are UL105, 105°C CSA approved
- Molded from impact and abrasive resistance black nylon for rugged construction
- $\pm 2\%$ Accuracy

| Catalog Number | Turns Ratio | Accuracy For 2 VA Burden |
|----------------|-------------|--------------------------|
| 01293 | 10:1 | 2% |
| 01306 | 15:1 | 2% |
| 01297 | 20:1 | 1% |
| 01298 | 30:1 | 1% |
| 01299 | 40:1 | 1% |
| 01313 | 50:1 | .8% |
| 01300 | 60:1 | .6% |
| 01305 | 80:1 | .5% |
| 01301 | 100:1 | .5% |
| 02303 | 120:1 | .5% |
| 02459 | 150:1 | .3% |
| 02304 | 200:1 | .3% |

Ordering Information

| Ampere | | Turns Ratio | Catalog Number | Dimensions | | |
|---------|-----------|-------------|----------------|------------|-------|-------|
| Primary | Secondary | | | A | B | C |
| 50 | 5 | 10:1 | 01293 | 3.56" | 1.56" | 1.10" |
| 75 | 5 | 15:1 | 01306 | | | |
| 100 | 5 | 20:1 | 01297 | | | |
| 150 | 5 | 30:1 | 01298 | 3.56" | 2.06" | 1.10" |
| 200 | 5 | 40:1 | 01299 | | | |
| 250 | 5 | 50:1 | 01313 | | | |
| 300 | 5 | 60:1 | 01300 | | | |
| 400 | 5 | 80:1 | 01305 | | | |
| 500 | 5 | 100:1 | 01301 | | | |
| 600 | 5 | 120:1 | 02303 | | | |
| 750 | 5 | 150:1 | 02459 | 4.50" | 3.00" | 1.09" |
| 1000 | 5 | 200:1 | 02304 | | | |

Dimensions



Donut Current Transformer Wrapping Information

Primary Turn Ratio Modification

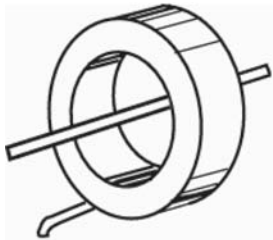
Formula: $Ka = Kn \times Nn / Na$

Where: Ka = Actual Transformer Ratio
 Kn = Nameplate Transformer Ratio
 Na = Actual Number of Primary Turns
 Nn = Nameplate Number of Primary Turns

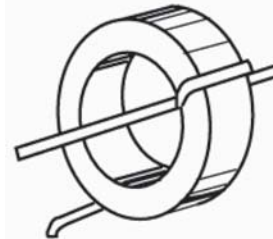
The ratio of the current transformer can be modified by adding more primary turns to the transformer. By adding primary turns, the current required to maintain five amps on the secondary is reduced.

Example: A 100:5 current transformer designed for one primary turn.

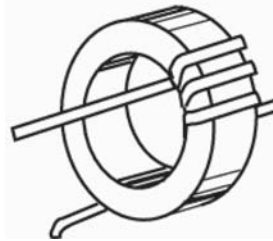
| 1 Primary Turn | |
|-----------------|--------------|
| Nameplate Ratio | Actual Ratio |
| 100:5 | 100:5 |



| 2 Primary Turns | |
|-----------------|--------------|
| Nameplate Ratio | Actual Ratio |
| 100:5 | 50:5 |



| 4 Primary Turns | |
|-----------------|--------------|
| Nameplate Ratio | Actual Ratio |
| 100:5 | 25:5 |



Primary Turn Ratio Modification

Formula: $\frac{Ip}{Is} = \frac{Ns}{Np}$

Where: Ip - Primary Current
 Is - Secondary Current
 Np - Number of Primary Turns
 Ns - Number of Secondary Turns

Example: A 300:5 Current Transformer.
 $\frac{300p}{5s} = \frac{60s}{1p}$

(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 current will result in a decrease in secondary output. By subtracting turns, the same primary current 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

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

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

$$\frac{275p}{5s} = \frac{65s}{1p}$$

The above ratio modifications are achieved in the following manner:

