

RING TYPE (RCT)



- Good magnetic conductivity
- Good copper winding
- Suitable for both cable and busbar
- Compact design in 5 size
- Applications for measurement equipments

1. GENERAL KNOWLEDGE

1.1. Current Transformer

In theory, to measure an electric current, We have to connect an ampere meter in series with the load. Unfortunately, In reality, sometime we have to measure very high current. We can not make a very big equipment with very big conductivity to measure. In this case, We will use a current transformer. Current transformers convert an alternating current usually high in to a proportional lower one. We just only measure the secondary current to calculate exactly primary current.

There are two main components : primary current and secondary current. With each component, We have three parameters: Amplitude, waveform and phase.

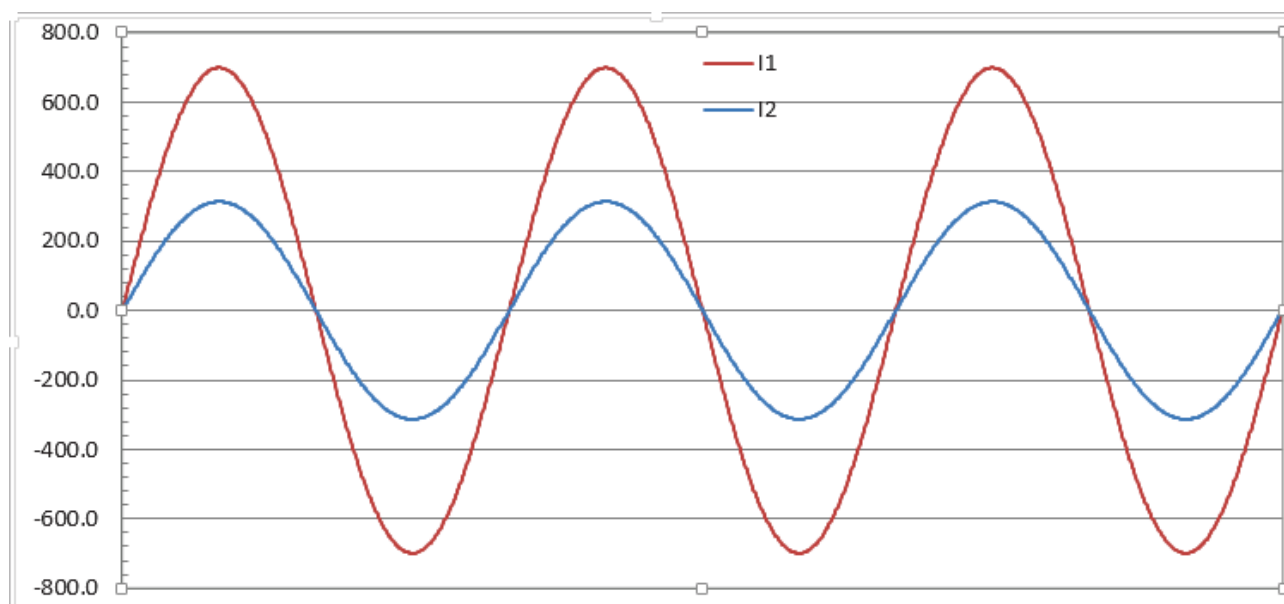


Figure 1: Ideal waveform of a current transformer

Ideal current transformer have standard Standard sinusoidal waveform. Amplitude of secondary current is in proportion with primary current. Phase shift is 0 degree. In reality, phase shift from few tenths of a degree up to 6 degree.

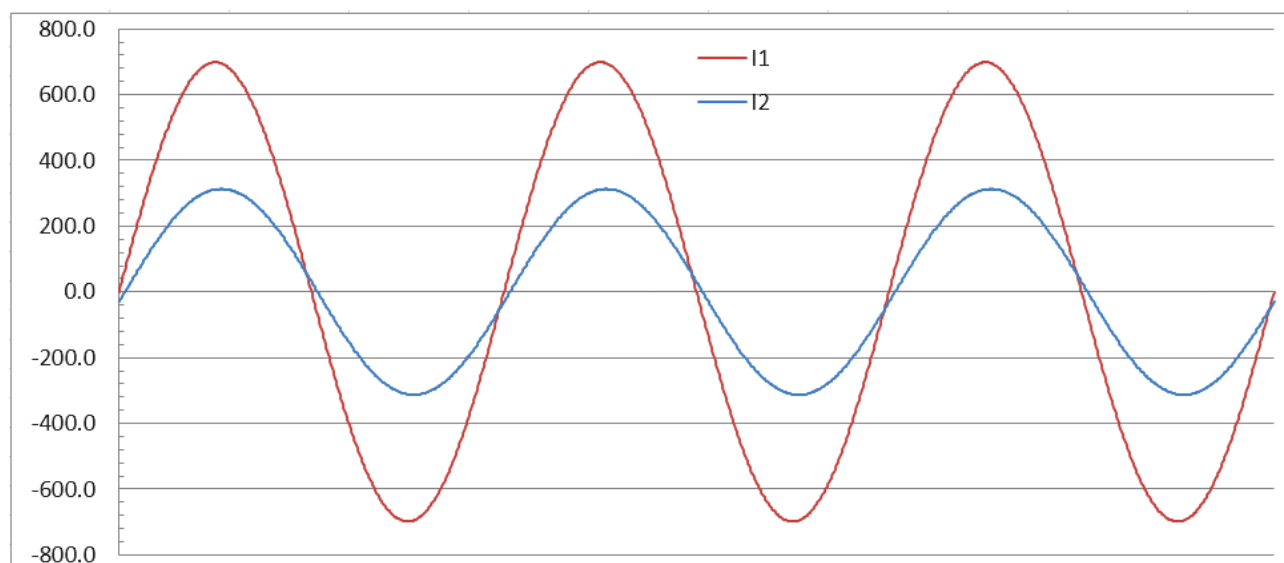


Figure 2: Reality waveform of a current transformer

Depends on application, We will need parameters with different accuracy. Measurement type CTs are required to transform the primary current, at various classes of accuracy, as specified by the class designation, over a current range from 1 to 120 percent of its rated primary ratio. The design of this type of transformer requires the inclusion of a core and winding which will when connected to its rated burden; perform within the limits of error as indicated by the standard's specification. It is an advantage for a measurement type transformer to saturate above this range, which provides a protection against damage to instruments by limiting the secondary current when surge currents or faults appear in the primary circuit.

2. HOW TO SELECT CURRENT TRANSFORMER

2.1. Ratio selection

- Determining the transformer ratio I_p/I_s
- For the transformer primary current, select the standard value immediately higher than the current to be measured. ie : current to be measured 1124 A. Select $I_p = 1200$ A
- For the secondary current, choose 1 A or 5 A depending on the instrument or relay, and on the distance between the transformer and the instrument it is feeding:
- 5A secondary is used when instruments or relays are close to the transformer, ie less than 10m (30ft).
- 1A secondary is preferably selected when the distance between the current transformer and the instrument transformer or the relay is above 10m (30ft). Joule losses by wire resistance are 25 times higher with 5A than with 1A.

2.2. Accuracy class

- For standards (Calibration) : Class 0.1 or 0.2
- For tariff metering = Class 0.2 - 0.2S - 0.5 - 0.5S -
- Industrial division metering = Class 1.0
- Measure display (ampere meter) = Class 1 or 3
- Protection = Class 5P or 10P

2.3. VA Burden selection

- Moving iron ammeter (frame dimension of 48, 72, 96, 144) 1.0 VA
- Bimetal instruments (.../5A) 3.0 VA
- Bimetal and Moving iron instruments (.../5A) 3.5 VA
- Wattmeter's 3.5...5.5 VA
- Power factor meter 4.0 VA
- Current transducer 0.5 VA
- Power transducer 0.5 VA
- kWh-meter 2.5 VA
- Trivector meter 5.0 VA

3. ILEC RING TYPE CURRENT TRANSFORMER (RCT)

3.1. Application

- Best use for ampere meter
- Can use for power meter (kW), division metering (kWh)
- Can use for power factor relay

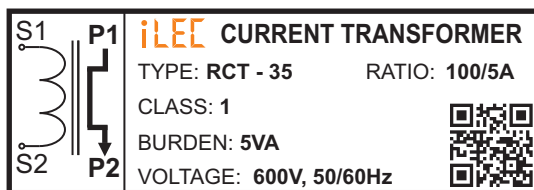
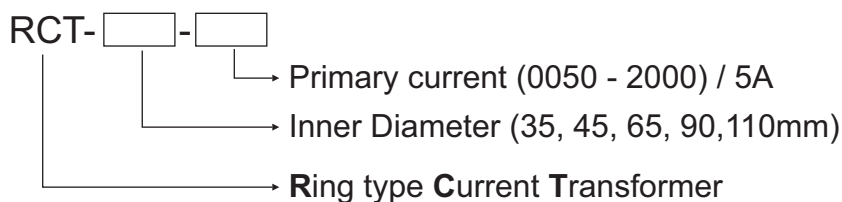
3.2. Features

- The product is characterized by compact design in 5 size.
- Made of single or several pieces of enameled wire evenly distributed around the core
- Secondary winding is characterized by good magnetic conductivity capability.
- Low power consumption, small magnetic-flux-leakage.
- Encapsulated in fire-retardant plastic.
- The enclosure is characterized by good insulation capacity, high intensity, elegant appearance, light weight.
- Easy mounting with both cable and busbar

3.3. Technical data

- Secondary current Isn: 5A
- Rated voltage Ue: 600VAC
- Frequency: 50/60 Hz
- Operating temperature: -5? +40? , humidity < 80%
- Standards: IEC 60044-1
- Installation type: busbar or plate fixing

3.4. ORDERING CODE



Name plate sample

3.5. DETAILS SPECIFICATION AND DIMENSION


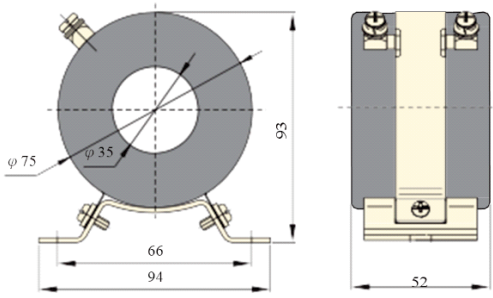

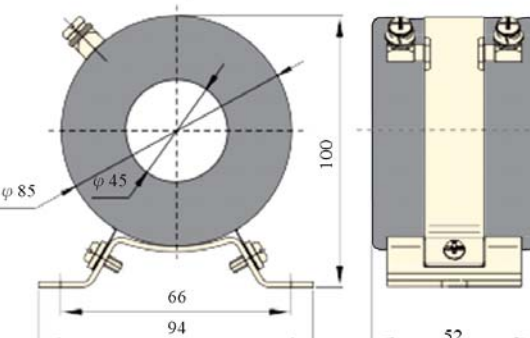

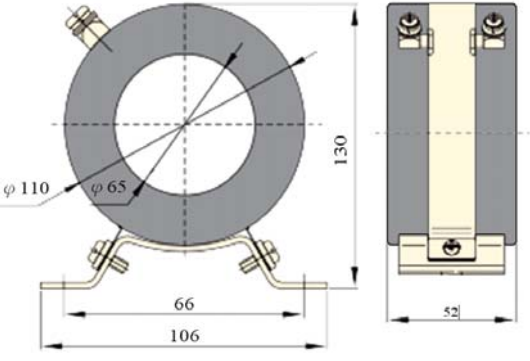

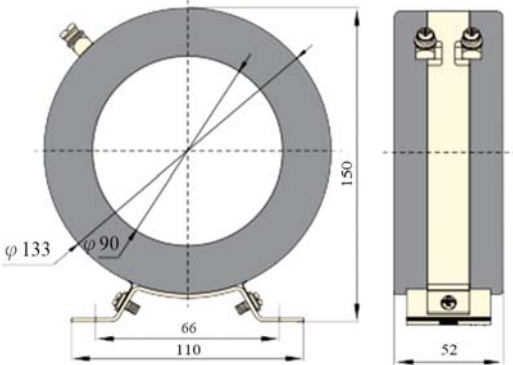

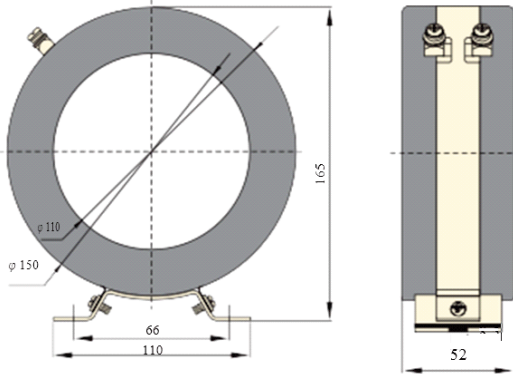
PHOTO / MODEL	ODERING CODE	RATIO PRI / SEC	OUTPUT (VA)	DIMENSION (mm)
 <p>RCT-35</p>	RCT-35-0050	50/5A	5	
	RCT-35-0075	75/5A	5	
	RCT-35-0100	100/5A	5	
	RCT-35-0150	150/5A	5	
	RCT-35-0200	200/5A	5	
	RCT-35-0250	250/5A	5	
	RCT-35-0300	300/5A	5	
 <p>RCT-45</p>	RCT-45-0250	250/5A	5	
	RCT-45-0300	300/5A	5	
	RCT-45-0400	400/5A	5	
	RCT-45-0500	500/5A	5	
 <p>RCT-65</p>	RCT-65-0300	300/5A	10	
	RCT-65-0400	400/5A	10	
	RCT-65-0500	500/5A	10	
	RCT-65-0600	600/5A	10	

PHOTO / MODEL	ODERING CODE	RATIO PRI / SEC	OUTPUT (VA)	DIMENSION (mm)
 <p>RCT-90</p>	RCT-90-0600	600/5A	10	
	RCT-90-0800	800/5A	10	
	RCT-90-1000	1000/5A	10	
	RCT-90-1200	1200/5A	10	
 <p>RCT-110</p>	RCT-110-0800	800/5A	15	
	RCT-110-1000	1000/5A	15	
	RCT-110-1200	1200/5A	15	
	RCT-110-1500	1500/5A	15	
	RCT-110-1600	1600/5A	15	
	RCT-110-2000	2000/5A	15	