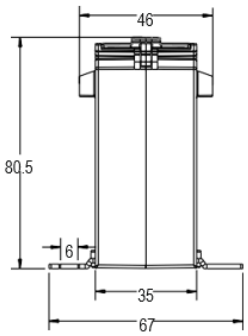
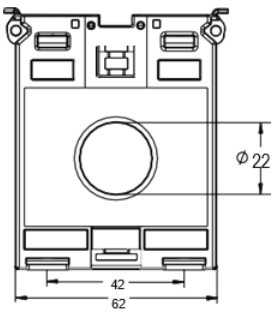
DIMENSIONS (MM)

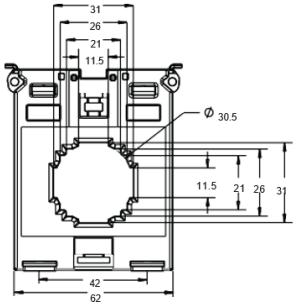
CT-30/5, 50/5, 100/5, 200/5



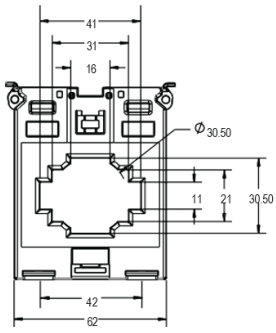
CT-30/5



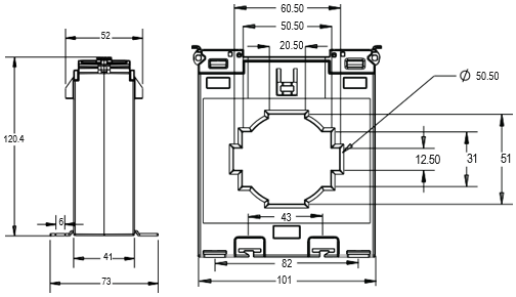
CT-50/5, 100/5



CT-200/5



CT-500/5, 1000/5



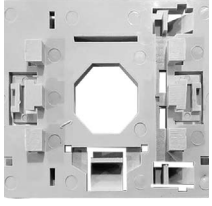
ORDERING INFORMATION

MODEL	CURRENT RATIO	BURDEN	ACCURACY CLASS
CT-30/5	30/5 A	1 VA	5
CT-50/5	50/5 A	1.5 VA	3
CT-100/5	100/5 A	3 VA	1
CT-200/5	200/5 A	2.5 VA	0.5
CT-500/5	500/5 A	5 VA	1
CT-1000/5	1000/5 A	15 VA	0.5

ACCESSORIES

DIN Rail Clamp — CTDRC

CTDRC - DIN Rail Clamp



CE

c UL us LISTED
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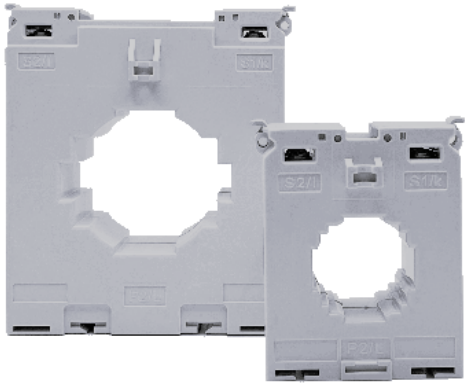

Current Transformers

The **CT Current Transformers** are available in a wide range of bus bar sizes and a current measuring range of 30A to 1000A. The transformers are CE and UL cURus listed.

- Use with different bus bar
- Accuracy: Class 0.5 to 5
- 30/5 to 1000/5 Amperes
- Panel Mount/ DIN Rail Mount (Optional Accessory)

SPECIFICATIONS

INPUT/OUTPUT	Rated primary rating	30A to 1000A
	Rated secondary output	5A
TECHNICAL SPECIFICATIONS	Rated burden (VA)	1VA to 15VA
	Class of accuracy	0.5 to 5
	Thermal Nominal Continuous	120% of In Rated Current (Icth)
	Thermal short circuit current (Ith)	Ith = 60 X In for 1 sec
	Instrument security factor	FS <5
	Insulation class	E (120°C max)
	Max operating voltage (Um)	720V maximum
	Isolation test voltage	3kV AC 1 min
	Nominal rated frequency	AC 50Hz - 60Hz
ENVIRONMENTAL SPECIFICATIONS	Ambient temperature	0°C to +50°C
	Humidity	< 95% RH (non-condensing)
	Storage temperature	-5°C to +50°C
MOUNTING	Mounting modes	Panel Mount / DIN Rail Mount
STANDARD	Applicable standard	IEC 61869-2

THREE PHASE CURRENT UNBALANCE

Balanced or matched currents on a three phase system are difficult to maintain because of the many varying factors involved such as, unequal single phase loading, poor connections and cabling and/or dirty or burnt starter contacts.

Although these varying factors can be controlled to maintain as close as possible a balanced line, the unseen conditions such as overheated motor windings, burnt bearings, low voltage, high voltage and single phasing need to be constantly monitored to protect your valuable equipment.

The **CLB Series** Three Phase Current Unbalance and Over Current Monitor (page 176) offers this protection.

To determine the condition of your three phase line and to properly select the **CLB Series** percent unbalance setting a simple calculation formula is needed as follows:

$$\frac{(I\ max - I\ avg)}{I\ max} \times 100$$

Example:

1. Measure the current on each leg.

   Assume A = 10 amps
   B = 12 amps
   C = 9 amps

2. Find Average 10 + 12 + 9 = 31

   $\frac{31}{3} = 10.33$

   I max = 12
   I avg = 10.33

3. Apply formula 12 - 10.33 = 1.67

   $\frac{1.67}{12} = .139 \times 100 = 13.9\%$ unbalance

EXTERNAL CURRENT TRANSFORMERS

The load or burden that can be connected to the secondary of the Current Transformer is usually specified in VA. The rated accuracy of the Current Transformer is guaranteed only when the sum of the VA ratings of all devices (ampmeters, wattmeters, current monitors, etc.) connected to the secondary windings does not exceed the specified VA rating.

The interconnecting conductor resistance must also be considered, especially when the Transformer is installed at some distance from the Current Monitor or other load.

For the wiring, the VA can be calculated using Ohm's Law:

$$VA = E \times I = (I \times R) \times I = I^2R$$

Where I = 5 Amps and R is the DC resistance of the wire.

All of the standard DE Current Transformers have a rating of 2 VA except the 2500/5 version which has a 5 VA rating.

From the above formula we can also calculate the maximum resistance that can be connected to the secondary of a Current Transformer:

$VA=I^2R$, Hence $R = \frac{VA}{I^2}$

Example:

$VA = 2 \quad R_{max} = \frac{VA}{I^2} = \frac{2}{(5)^2} = 0.08$ Ohms = 80 milliohms

$VA = 5 \quad R_{max} = \frac{VA}{I^2} = \frac{5}{(5)^2} = 0.2$ Ohms = 200 milliohms

If the only load on the Current Transformer is a DE Current Monitor, its VA rating (approx. 0.15 VA) is small compared to the Current Transformer rating and can be neglected. This means that the resistance of the wiring can be 80 milliohms max. for the 2 VA units and 200 milliohms max for the 5 V A unit.

Gauge	Ohms per 1000'	Milliohms per foot
AWG 14	2.5	2.5
AWG 16	4.0	4.0
AWG 18	6.4	6.4
AWG 20	10.0	10.0

Example:

For a 2 VA Current Transformer, the length of AWG 16 wire would be:

$$\frac{80\ milliohms}{4.0\ milliohms/ft} = 20'$$

Because we are dealing with a pair of wires, the maximum distance from the Current Transformer to the Current Monitor can be only 10 ft.

As we can see, it is important to keep the wire length to minimum, use heavy wire, and keep all connections clean and tight.