

Technote 110 - Measuring Multiple Circuits with One Current Transformer (CT)

Purpose

To establish guidelines for measuring multiple circuit conductors using one current transformer (CT).

High Level Theory

One CT can be used to measure multiple circuit conductors if all the conductors are associated with the same phase. The sum of each conductors' current must not exceed the CT amperage or circuit breaker ratings. The same phase conductors must pass through the CT in the same direction. The CT full scale current rating must be equal to or greater than the total load current of all the conductors threaded through the CT. The total load current is calculated by adding up the maximum rated current for each load.

Pros and Cons

Pros	Cons
Cost reduction	Reduced accuracy at low current levels
Aggregate similar loads into a single reading	More likely to have installation errors
	Cannot view each load individually

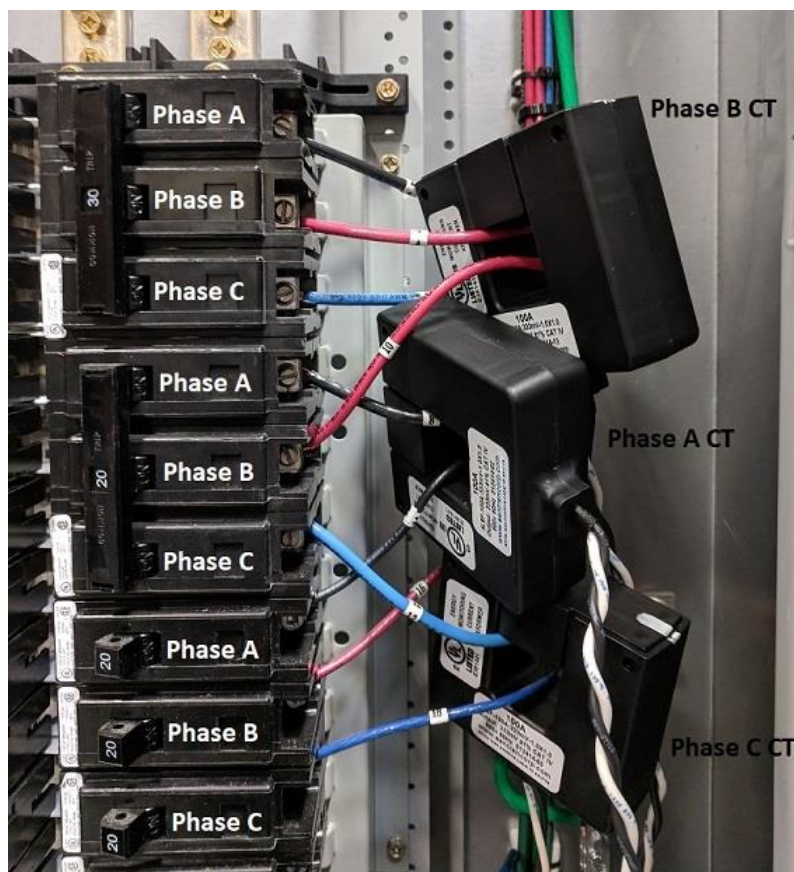


Figure 1: 3P 120VAC Panel Multiple Conductor CT Monitoring

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Rev	Date	Author	Description of Changes
1	07/27/2018	LEP	Initial document
2	09/17/2018	LEP	Added revision table and updated Obvius logo in the footer