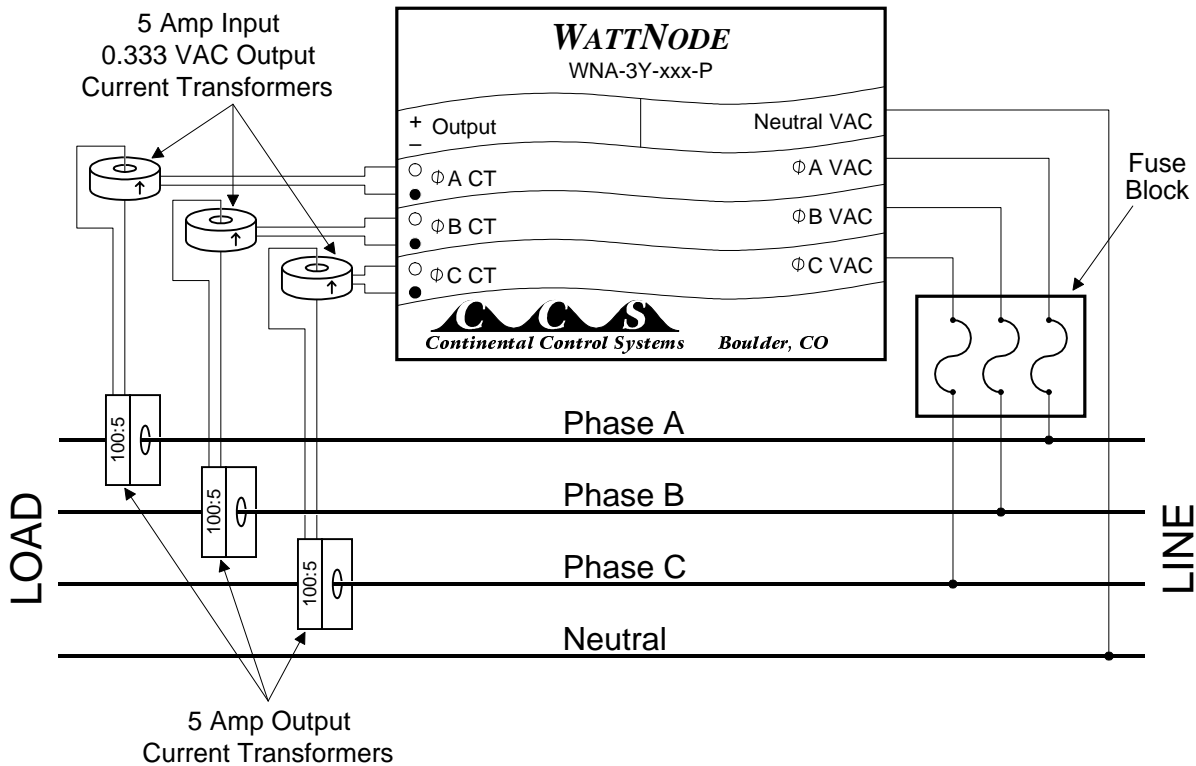


App Note: Using the WattNode[®] with 5 Amp Output CTs 2/1/1999

The WattNode cannot directly interface to 5 amp output current transformers (CTs), so if you wish to use 5 amp output CTs, then you will also need 0.3333 VAC output CTs to interface with the WattNode. We recommend a solid-core CT (CCS part number CTT-0300-005) for best accuracy. If you need an opening (split-core) CT, use part number CTS-0750-005. The diagram below shows a typical configuration. Some trial and error may be necessary to get the polarity of the CTs correct; if they are backwards, then the WattNode will report zero power. **Note: 5 amp output CTs will produce dangerous voltages if their outputs are left unconnected while current is flowing through the CT, so DO NOT disconnect the outputs of the 5 amp output CTs while they are on a live circuit.**



The scale factors to compute power and energy will be the same as when you use 0.3333 VAC output CTs. For example, if you are using 100:5 (100 amp input, 5 amp output) CTs, then anywhere you need the CT size (rated amps), just use 100.

Troubleshooting

If the WattNode does not appear to be reporting the correct power, there are several things to check. If you have a clamp on style current (amp) meter, then if possible, measure the Phase A, B, and C currents. If these are too large to measure, then try to estimate the current based on the load. Next, measure the current in the loop on the output of the 5 amp CTs. This current should be proportional to the current ratio of the 5 amp output CTs. For example, if you measure (or estimate) 1000 amps flowing in Phase A and you are using a 2000:5 ratio CT, then you should measure 2.5 amps in the output loop of the CT (try to make this measurement as far as possible from the high current wires or busbars so that the current meter does not pick up any stray magnetic fields).

Once you have established that the 5 amp output CT is working correctly, then you should verify the 0.333 VAC output CT. Continuing with the above example, since 2.5 amps is one half of the full-scale, the output voltage of the 0.333 VAC CT should also be approximately one half of full-scale, or 0.167 VAC.

If both of the above tests check out correctly, but the WattNode is still reporting incorrect power, then you need to verify that the CTs are wired to the correct phases and that the polarities are correct. See the WattNode Installation Manual for phase and polarity troubleshooting.



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