

## Ask the Engineer

*By Jim Rasmussen  
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Ok, I know you have a question for ask the engineer but you just haven't gotten around to sending it in. Well, John in Kansas City Missouri sent this interesting question:

I have seen specifications with the term "Utility Metering Accuracy" but no one seems to know exactly what this means. What does it mean?

Thanks for sharing your question with us John.

If you lived in Canada, this would be an easy one to answer. Canadian Utilities have jointly created a set of metering accuracy standards that are published as part of the CSA standards so "Utility Metering Accuracy" really means something there.

Just about every Utility in the United States has it's own standards for meters that they use to measure the energy used by their customers to facilitate accurate billing. These standards cover many physical and electrical parameters including accuracy. Obviously accuracy is very important since 1 or 2 percent error can mean a lot of lost revenue from a large customer. Over the years, engineers specifying "owner-owned" or "check" meters used the term "Utility Grade/Class Accuracy" or "Revenue Grade/Class Accuracy in an attempt to require the same level of accuracy. This can cause confusion since the requirement may change from utility to utility.

So, how can we avoid this confusion?

Well, it's really quite simple! If you specify accuracy of .2% (of reading) for energy and powering accordance with ANSI standard C-12.20 and IEC standard 687 (voltage and current accuracy for a given meter are typically comparable to energy and power accuracy) you will get a meter that will satisfy the accuracy requirements of just about all of the Utilities in the USA. By changing the specification wording to include either of these standards, the engineer can eliminate the confusion.

I would be remiss, however, if I didn't point out that a .2% accuracy meter is generally more expensive then a standard .5% accuracy meter. Meters with .5% accuracy have been used for years for sub-metering and load monitoring applications and there is no need to specify "Utility Accuracy" on every project.

Many thanks to Nadeem Mirza for his input.

Need more help with your metering specifications?

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[www.geindustrial.com/multilin/specs/index.htm](http://www.geindustrial.com/multilin/specs/index.htm)

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