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Ensign Explains Transformers



So what are transformers anyway? What do they do, and why do we need them? Let's start at the beginning.

Commercial, residential, and industrial buildings throughout the world are wired for a variety of voltage levels, but nearly all of them fall somewhere within the 100V to 480V range. Electrical power is transmitted rather efficiently at these voltages. However, most electrical devices require much lower voltages in order to operate, sometimes as low as 3V. One of the most common uses for transformers is to literally "transform" electrical power at high voltages into electrical power at lower voltages. These are "step-down" transformers. Sometimes, the reverse may be desired; that is, it may be necessary to transform electrical power at a low voltage into electrical power at a higher voltage. These are "step-up" transformers.

There are even transformers that input and output the exact same voltage. So it may be asked, why bother? In a word -- safety. Generally, there is no hard wire connection between a transformer's input and output because the voltage transformation is done magnetically. Such transformers safely isolate the input from the output, and are therefore called "safety isolation" transformers.

In summary, transformers are used to accept certain voltages and transform them into higher or lower voltages, depending on the requirements of the specific electrical device(s) being powered. In addition, they provide a degree of safety by isolating the input and output voltages from each other. In fact, it is possible for a single transformer to step up, and step down, and provide safety isolation. Such designs are Ensign's specialty.

Benefits of Using Ensign:

- ISO 9001 since 1998, registration upgraded to 9001:2008.
- Flame retardant design leads the industry for safety.
- Highly experienced staff of engineers (over 180 yrs of cumulative design and engineering experience).
- Cost competitive quotes (made in USA and/or China).
- Global supply chain provides risk-free and reliable product(s) design and delivery.
- Supply chain programs (e.g. Just in Time, Consignment, KanBan) available.

To complete an online request form, please visit our web site at www.ensigncorp.com or call us at 630-628-9999.

Ensign Corporation has been producing quality custom and pre-designed transformers since 1939. Our Quality Policy is simple, and effective:

- A) Compliance to Requirements.
- B) Continual Improvement.
- C) Personal Pride in our Work.

Feel free to take advantage of our pre-designed models, or let us customize a transformer to your particular needs. Either way, you've come to the right place.