EcoDry is ABB’s line of ultra-efficient transformers that can both minimize environmental impact and save on operating costs at the same time. ABB’s EcoDry is a smarter solution to our enhanced energy efficiency concern.

**Environmental protection and cost awareness**
Environmental protection and climate change rank among the top issues facing the world today. Being energy efficient helps keep energy prices low and reduces the emission of CO₂. A great way to improve energy efficiency in distribution transformers is to optimize the design to the expected loading profile. This type of engineering reduces the highest type of losses found in the transformer. The EcoDry family is specifically designed to dramatically reduce losses that have the most environmental and economical impact for their specific application.

**The EcoDry family**
Losses from transformers have to be approached differently depending on their average loading. If loading is low, the no load or core losses may account for as much as 80 percent of the total transformer losses. If loading is high, the load or coil losses will be preponderant. The EcoDry Family addresses both kinds of losses and has a solution for any load profile case.

**EcoDry**<sub>Basic</sub>
EcoDry<sub>Basic</sub> features industry leading materials and top-quality components, including amorphous metal as the core material. Amorphous metals have proven their durability and reliability in distribution transformers for more than 20 years and are an affordable choice for long term investments. EcoDry<sub>Basic</sub> is ideal for places that have low mean loads such as remote utility distribution or in double redundant systems. In these kinds of applications, the no-load losses account for three to five times higher than the load losses. By utilizing amorphous cores, the EcoDry<sub>Basic</sub> can significantly reduce no-load losses by up to 70 percent.

**EcoDry**<sub>99Plus</sub>
For applications in industrial settings that use a high level of consistent power, the load losses will greatly outweigh the no-load losses. The EcoDry<sub>99Plus</sub> is specially designed to combat load losses by improving the coil technology. These improvements offer up to 30 percent reduction to the transformer’s total losses. This reduction results in a potential savings of 35,000 kWh from a single EcoDry<sub>99Plus</sub> series transformer over the course of one year. This savings is equivalent to the power consumption of 10 standard households.

**EcoDry**<sub>Ultra</sub>
Viewed as the ultimate solution for reducing transformer losses, EcoDry<sub>Ultra</sub> combines the advantages from both EcoDry<sub>Basic</sub> and EcoDry<sub>99Plus</sub>. This unit is the best choice for a system operating at continuous medium loads or for strongly varying loads, such as renewable energies. In these applications, the total losses of transformers are shared equally between the core and the coils. EcoDry<sub>Ultra</sub> can reduce total losses by up to 45 percent by utilizing amorphous metals and improved coil technologies.
Total ownership costs
The total ownership cost (TOC) of a transformer includes future operating costs of operating a transformer over its lifetime, brought back into a present day cost to be added to the purchase price of a transformer. The TOC of a transformer provides true economics, considering the initial cost of the transformer, as well as the cost of the transformer over its lifetime. Lower losses result in a cost avoidance derived from the elimination or deferral of extra generation and transmission capacity. ABB engineers have tools that can comprehensively calculate true ownership costs and will work with you to provide you the most economical solution.

Advantages
All of the EcoDry family of transformers has the complete safety features of standard dry-type transformers, such as being non-flammable and self-extinguishing. Additional advantages include:

- reduced no-load and/or load losses
- increased efficiency
- environmentally friendly
- cost efficient
- energy saving
- lengthy lifetime thanks to ultra-durable materials
- less heat generation

Current product range offerings
Power: up to 4,000 kVA
Primary voltages: up to 36 kV

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