LUNDAHL
– TRANSFORMERS –

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Where quality and transformers meet

In conventionally manufactured transformers one have to rely on the enamel isolation of the copper winding wire for electrical isolation within a section. Extra isolation, such as tape and film, is placed only between sections. Within a section, the copper wire is wound in a more or less random fashion, and the voltage difference between two adjacent wires may be substantial. In addition to the risk for short-circuits, the inter-winding capacitance may vary substantially between individual transformers.

As the vast majority of transformers used are produced in this way, transformers have a reputation for unreliability. And the problems are inherent in the construction of the transformers. Thus quality programs which aim at conformity of production (like ISO-9000) can reduce the problems only slightly.

Transformers from LUNDAHL TRANSFORMERS, on the other hand, have a strong reputation for reliability and repeatability. This is a result of a careful design and manufacturing process:

1 An open end winding technique with insulation between each layer of copper wire is consequently applied even for the thinnest of wire dimensions. This gives the following properties:
   - 1.1 The wire is wound in well-ordered layers. As a result, no wires are crossed and the fill factor is increased (in spite of more insulating material!).
   - 1.2 As the additional isolation is applied across the vertical direction, the isolation is reinforced where strong mechanical forces and high voltage differences occur.
   - 1.3 The copper wire is in close contact with low-voltage neighbors of the same layer only.
   - 1.4 Winding capacitances are reduced and reproducible.

2 Each transformer is submitted to isolation tests prior to molding to correct and sort out potential low isolation voltage candidates.

3 A molding process is developed where naked wires are fixated in a ceramic casting.

4 Each transformer is impregnated in a pressure and vacuum cycling process where the windings and the mold is soaked with a solventless epoxy resin.

5 In the final tests each individual transformer is tested for malfunction and isolation breakdown.

6 The production is carried out by our very long-experienced staff (average employment time for our employees is more then 10 years).

Due to our unwillingness to compromise on our ideas on how the ideal transformer should be designed and manufactured, we refrain from manufacturing products where our design principles cannot be applied, such as toroidal transformers. Due to our rather unique concept, we have also been forced to build most of our production machines in house, including e.g. winding machines.

As all companies, we are dependent on the satisfaction of our customers to survive, and we will continue to do our best to retain our customers' confidence. In terms of quality development, our future plans are to document certain key steps in the production process which have not yet been properly documented, and to continue to develop the products and the production process in order to give our customers maximum value for their money.

Per Lundahl, Managing Director