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THE IMPACT OF CALCULATIONS DC CONTACTOR ON THE CHOOSING WINDING PARAMETERS

A contactor is an electrically controlled switch used for switching a power circuit, similar to a relay except for higher current ratings. A contactor is controlled by a circuit, which has a much lower power level than the switched circuit. Contactors come in many forms with varying capacities and features.

Contactors are widely used in many branches of industry to control electric motors, lighting, heating, capacitor banks, thermal evaporators, and other electrical loads.

The main impact of calculation is preliminary determination of magnetic circuit dimensions, magnetizing force of winding and its geometrical dimensions.

The coil is the main unit of all electromagnets; it provides the necessary magnetizing force for electromagnet operation.

The aim of calculation is to determine wire diameter, number of turns and the winding resistance, that provide necessary magnetizing force at admissible heat temperatures. The most common type the winding wire with enamel insulation and admissible winding temperature rise is used.

The winding of an electromagnet coil can be wound according to the following technology:

1. directly to the insulated core of the electromagnet;
2. on an insulated metal sleeve that is mounted on the core (fits tightly on the core);
3. on a frame made of insulating material or performed frameless.

With various technologies both the shape and design change, and the conditions of heat removal and the temperature value change heating coils. The winding is wound, as a rule, turn by turn.

This leads to higher quality insulation, better thermal conductivity and other physical and chemical properties of an electrical product.