Calculation of the heating temperature of electric motor cables for auxiliary needs, taking into account the current distribution in parallel branches.

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For auxiliary electric motors of high power, it is necessary to have two or three parallel supply cables. The usual approach to calculating short-circuit currents on the auxiliary motor cable does not take into account the current supply from the undamaged parallel cable. A calculation technique is proposed taking into account the influence of this factor.

Keywords: short-circuit current, auxiliary needs, asynchronous electric motor, cable heating, thermal impulse.